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CASES IN SURGERY

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INTRODUCTIONS, OPERATIONS, and REMARKS.

To which is added,

An Account of the Preparation and Effects of the AGARIC of the OAK in ſtopping of Bleedings, after ſome of the moſt capital Operations.

By *JOSEPH WARNER*, F.R.S.
And Surgeon to *Guy*'s Hoſpital.

The THIRD EDITION.

LONDON:

Printed for J. and R. TONSON in the *Strand*.

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DEDICATION.

Should theſe Papers be found to conduce in any degree to the Advancement of my Profeſſion, or in other Words, to the Benefit of Mankind, I dare ſay it will be no inconſiderable Pleaſure to you, under whoſe Direction this Charity flouriſhes, to reflect, that an Hoſpital is not only the Inſtrument of Relief to the Diſtreſſed who are immediately received there, but alſo a Means of helping others, by furniſhing ſuch Principles and Practice, as may improve the Art of Surgery, and thus render the Benefit more general.

I am, with the greateſt Reſpect,

GENTLEMEN,

your moſt obedient, and

moſt obliged humble Servant,

Hatton-Gardon,
July 18, 1754.

JOSEPH WARNER.

CONTENTS.

CHAPTER I.

AN Introduction to Diſorders of the Scull, the Brain, and its Membranes, ariſing from external Cauſes. Page 1

CASE I.

Of a fractured Scull with a Wound of the Longitudinal Sinus. 8

CASE II.

Of a fractured Scull, where the Operation was ſucceſsfully perform'd upon the Lambdoidal Suture. 14

CASE III.

Of a Man where the Operation of the Trepan had been ſucceſsfully performed upon the Os Occipitis. 18

CONTENTS.

CHAP. II.

Of a Concuſſion of the Brain attended with uncommon and fatal Circumſtances. page 20

CASE IV.

Of a violent Concuſſion of the Brain, and a Contuſion of the Scalp, attended with Loſs of Senſe, Delirium, and Rigors ſucceſsfully treated. 28

CASE V.

Of a Depreſſion and Fracture of the Os Frontis, *ſucceſsfully treated.* 34

CASE VI.

Of a fractured Scull with a Wound of the Brain and a Paralyſis of the left Side, which after a variety of Incidents terminated in Death on the twenty-eighth Day after the firſt Operation. 39

CASE VII.

Of a Fracture of the left Parietal Bone of the Scull, attended with a ſeparation of the Coronal

Coronal Suture, and a slight Depression of the Os Frontis, *successfully treated.* page 43

CASE VIII.

Of a Depression of the Os Frontis *and Concussion of the Brain, in which the Operation of the Trepan was successfully apply'd.* 46

CHAP. * III.

Of the Operation of the Trepan. 48

CHAP. III.

Of the Cataract. 56

CASE X.

A short Account of some extraordinary Facts attending the Operation of Couching, &c. 62

CHAP. IV.

The Manner of Couching. 68

A short Abstract from the Memoirs of the Royal Academy of Surgery at Paris, *of an Account of*

of the Operations of the Cataract, *for the Extraction of the* Chryſtalline, *done by Monſieur* Poyet, *before the Commiſſaries of the Academy, as drawn up by Meſſieurs* Morand *and* Verdier. page 75

Abſtract from the Memoirs of the Royal Academy of Surgery at Paris, *publiſhed Anno* 1753. 81

The Manner of performing the Operation of extracting the Cataract *with one Inſtrument only, by Mr.* WARNER. 87

Remarks upon the different Operations of Couching, and of opening the Cornea, *and extracting the diſeaſed* Chryſtalline *Humour, or* Cataract. 92

CASE XI.

Of an extraordinay Tumour in the right Orbit of the Eye. 98

CHAP. V.

The Manner of performing the Operation. 100

CONTENTS.

CASE XII.

Of an uncommon Tumour upon the Roof of the Mouth. page 102

CASE XIII.

Of two Operations performed upon the Tonsils. 104

CASE XIV.

Of an encysted Tumour situated upon the fore-part of the Neck, successfully extirpated. 115

CASE XV.

Of a Steatoma, *possessing the greatest part of the Neck on one side, successfully extirpated.* 117

CASE XVI.

Of an incurable Disease of the Æsophagus. 120

CASE XVII.

Of a Tumour situated upon the Forehead. 123

CASE XVIII.

Of a Tumour situated upon the Occiput. 124

CONTENTS.

CASE XIX.

Of an extraordinary Diſeaſe of the Humeral Artery. page 128

CSAE XX.

Of an Aneuryſm of the humeral Artery. 132

CASE XXI.

Of an Aneuryſm of the Arteria Tibialis Poſtica. 137

CASE XXII.

A remarkable Caſe of an Aneuryſm *of the Femoral Artery occaſioned by a Fall. To which is prefixed, a ſhort Account of the Uncertainty of the Characteriſtics of this Diſeaſe; communicated to the* Royal Society, November 17, 1757, *and inſerted in their Tranſactions.* 141

CASES XXIII and XXIV.

Two remarkable Caſes of Ganglions, *where the Operations were performed with Succeſs.* 152

CASE

CONTENTS.

CASE XXV.

Of a Ganglion *ſituated upon the Fore-finger.* page 158

CHAP. VI.

Of the Empiema. 160

CASE XXVI.

Of an Empiema, *where the Operation was unſucceſsfully performed.* 166

CASE XXVII.

Two Caſes of the Operation for the Empiema *ſucceſsfully performed, and read before the* Royal Society *the* 19*th of* March 1752, *and* 28*th of* June 1753. 169

CASE XXVIII.

On the 19*th of* March 1752, *I did myſelf the Honour of communicating to this Society the Caſe of* T. H. *on whom I had performed the Operation for the* Empiema *with Succeſs. Since then I have performed the ſame Operation a ſecond time with equal Benefit;*

and therefore presume to lay this Case likewise before you as a farther Proof of its usefulness under the like Circumstances. page 172

CASE XXIX.

A remarkable Case of an Empiema. 178

CHAP. VII.

Of the Operation for the Bubonocele. 186

CASE XXX. 191

CASE XXXI.

Of an incarcerated Hernia Inguinalis. 196

CASE XXXII.

Of an Hernia Umbilicalis *from Tapping.* 198

CASE XXXIII.

Of a Wound penetrating the Abdomen. 203

CHAP. VIII.

Of the Stone in the Bladder of Urine. 205

CASE XXXIV.

A singular Case of the Stone. 217

CONTENTS.

CASE XXXV.

Of a piece of Bone, together with a Stone in the Bladder, ſucceſsfully extracted. Inſerted in the Philoſophical Tranſactions, *printed* Anno 1753. page 220

CASE XXXVI.

A remarkable inſtance of four Rough Stones that were diſcovered in an human Urinary Bladder contrary to the received Opinion; and ſuceſsfully extracted from thence by the lateral Method of cutting for the Stone. Communicated to the Royal Society, *and inſerted in their Tranſactions for the Year* 1759. 223

CASE XXXVII. 228

CASE XXXVIII.

Of a Retention of Urine occaſioned by the Size of the Hymen. 237

CASE XXXIX.

Of an Amputation of the Penis. 240

CASE

CONTENTS.

CASE XL.

Of the good Effect of medicated Bougies, in Diſeaſes of the Penis *and* Scrotum. page 244

CASE XLI.

Of the Hydrocele *of the* Tunica Vaginalis. 248

CASE XLII.

Of an Hydrocele. 257

CASE XLIII.

Remark on the Hydrocele. 259

CASE XLIV.

Of a Tumour growing on the Inſide of the Bladder, ſucceſsfully extirpated. Inſerted in the Philoſophical Tranſactions *for the Months of* April, May, June, *and* July 1750, *printed* Anno 1751. 264

CASE XLV.

A remarkable Inſtance of two Excreſcences of the Urethra, *ſucceſsfully extirpated.* 268

CASE

CONTENTS.

CASE XLVI.

A remarkable Inſtance of a Wound by which the Tibia *was entirely divided.* page 273

CASE XLVII.

A ſingular Inſtance of a diſeaſed Joint requiring Amputation. 277

CASE XLVIII.

Two ſingular Caſes of diſeaſed Knee-Joints ſucceſsfully treated, the firſt by Topical Applications, the ſecond by Operation. Communicated to the Royal Society, *and publiſhed in their Tranſactions for the Year* 1756. 279

CASE XLIX.

Of a fractured Patella. 289

CASE L.

Of a fractured Patella. 290

CASE

CONTENTS.

CASE LI.

Of a Diviſion of the Tendo Achillis. page 292

CASE LII.

Of a Diviſion of the Flexor Tendons of the Wriſt. 295

CASE LIII.

Of a Rupture of the Tendo Achillis. 297

CASE LIV.

Monſieur Faget's *Remarks on the Uſe*, &c. *of the Styptic purchaſed by his Moſt Chriſtian Majeſty*; *communicated by* James Theobald, *Eſq*; F. R. S. *inſerted in the* Philoſophical Tranſactions *for the Year* 1753. 299

CASE LV.

Of an Amputation of the Leg. 308

CONTENTS,

A short History of the Effects of the Agaric of the Oak in stopping of Bleedings, after some of the most capital Operations in Surgery; with an Account of the Manner of its acting upon the Vessels. Communicated to the Royal Society. page 311

CASE LVI.

Of an Amputation of the Leg. 314

CASE LVII.

Of an Amputation of a Breast. 318

CASE LVIII.

Of an Amputation of a Leg. 321

CASE LIX.

Of an Amputation of a Leg. 323

CASE LX.

Of an Amputation of the Leg. 325

CASE

CONTENTS.

CASE LXI.

Of an Amputation above the Knee, where the Agaric was applied unſucceſsfully. page 332

CASE LXII.

Of an Amputation of the Leg where the Agaric ſucceeded, when the Needle and Ligature could not take place. 335

CASE LXIII.

Of an Amputation of the Leg, above Knee, where the Agaric was applyed with Succeſs. 337

CASE LXIV.

Of an Amputation of the Arm above the Elbow, where the Agaric was applied with Succeſs. 343

CASE LXV.

Of an Amputation of the Arm above the Elbow, where the Agaric was applied with Succeſs. 345

CASE

CONTENTS.

CASE LXVI.

Of an Amputation of the Leg below the Knee, attended with ſingular Circumſtances, where the Agaric failed of Succeſs. page 346

CASE LXVII. &c.

Where the Agaric was unſucceſsfully applied below the Knees after the Limbs were Amputated. 350

CASE LXVIII.

Of an Amputation of the Leg below Knee, where the Agaric was unſucceſsfully applied. 357

CASE LXIX.

Of an Amputation of a Breaſt where the Agaric was ſucceſsfully applied. 360

Explanation of the Plates. 364

ERRATA.

Page	Line	
22,	13,	*for* Antigiuores *read* Antiquiores.
40,	17,	*dele* ;
105,	1,	*for* Wretchings *read* Retchings.
107,	24,	*for* Inciſioi *read* Inciſivi.
124,		*for* Caſe XVII. *read* Caſe XVIII.
128,		*for* Caſe XVIII. *read* Caſe XIX.
166,	1, and 6,	*for* Æſophægus *read* Œſophagus.
162,	19,	*for* know *read* known.
189,	24,	*dele* be.
214,	ult.	*for* diſcoved *read* diſcovered.
237,	ante penult.	*for* 1750, *read* 1749.
256,	19,	*for* in *read* from.
263,	11,	*dele* the.

CASES

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CASES IN SURGERY.

CHAPTER I.

An Introduction to Diſorders of the Scull, the Brain, and its Membranes, ariſing from external Cauſes.

THE internal ſurface of the Scull is in every part inveſted with a ſtrong Membrane of a Tendinous and Ligamentous Structure, compoſed of two *Laminæ*, or Coats; which Membrane is almoſt univerſally known by the term *Dura Mater*.

THE external *Lamina* of the *Dura Mater* adheres to every internal part of the Scull; but to the upper part of the Scull, its adhesion is not so firm as to the lower part of it. In young People the adhesion of the *Dura Mater* to the Scull is greater than it is in Adults.

THE *Dura Mater* detaches a great number of Filaments to the internal Surface of the *Cranium*, which penetrate the Pores of the Bones, principally at the Sutures; and by passing through the Sutures, they form a communication with the external Covering of the Scull, called *Pericranium*.

MOST of these elongated Fibres of the *Dura Mater* are Blood Vessels; which being ruptured in separating this Membrane from the internal parts of the *Cranium*, there appear great numbers of bloody Particles on the external surface of the *Dura Mater*.

The internal Coat, or *Lamina* of the *Dura Mater*, is smooth and polished; and is lubricated with a kind of Lymph, as the internal Surfaces of the *Pleura*, the *Pericardium*, *Peritonæum*, and *Tunicæ Vaginales* of the Testicles are.

THE *Dura Mater* is supplied with Arteries from the external Carotid, the internal Carotid, and Vertebral Arteries: The largest of which, by

by way of diſtinction, are termed *Arteriæ Duræ Matris.*

THE *Arteria Duræ Matris* on each ſide the *Cranium* paſſes through a Foramen in the *Os Sphenoides*, called the Spinal Hole; their Ramifications are continued to the ſuperior part of the *Dura Mater*, where they unite.

THESE Arteries by their pulſation gradually form very conſiderable Impreſſions on the internal Surfaces of the Parietal Bones: at the anterior inferior Angles of which, there is a deep Groove, which contains a part of the Trunk of this Artery.

THE *Arteriæ Duræ Matris* are Branches of the external Carotid Arteries; one on each ſide the *Cranium*, which, from their ſituations are called the middle Arteries of the *Dura Mater.*

THE anterior Arteries of the *Dura Mater* are likewiſe Branches of the external Carotid Arteries, but they are ſmall.

THESE Arteries enter the Scull through the corners of the Orbitary Fiſſures of the *Os Sphenoides*, and are divided into Ramifications, which communicate with thoſe of the *Arteriæ Duræ Matris.*

THE poſterior Arteries of the *Dura Mater* are Branches of the Vertebral Arteries. Theſe Arteries enter the Scull through the great Foramen of the *Occipital* bone. Theſe Veſſels penetrate the ſubſtance of that Membrane on each ſide of the *Proceſſus Sphenoidalis* of the *Os Occipitis*.

AMONGST the ſeveral Arteries of the *Dura Mater*, which I have here taken notice of, an attention to the ſizes and ſituations of thoſe Arteries called *Arteriæ Duræ Matris* is a matter of ſome conſequence to the Surgeon in the Operation of the Trepan, ſo far as relates to the inconvenience of a troubleſome and profuſe *Hæmorrhage*, if either of the Trunks of theſe Veſſels happens to be wounded in that Operation.

THE Veins of the *Dura Mater* are of two kinds. Some of theſe Veſſels are ſmall, are like the Veins of the other parts of the Body, and accompany the Arteries in their courſe.

SOME of the Veins are large, of a peculiar kind, and of a triangular form: They are very ſtrongly compoſed, and are known to Anatomiſts by the names of Sinuſes.

THE Sinuſes of the Brain are numerous, but there are only three of them that are abſolutely

ſolutely neceſſary to engage the attention of the Surgeon in the Operation of the Trepan; theſe are the ſuperior Longitudinal Sinus, and the two Lateral Sinuſes. The courſe of the ſuperior Longitudinal Sinus is from that eminence of the *Os Ethmoides* known by the Name of *Chriſta Galli*, (placed on the inſide of the Scull in a Chaſm formed for this purpoſe in the Baſis of the *Os Frontis*,) and from thence continued to near the middle Portion of the *Occipital* Bone, where it terminates in the Lateral Sinuſes.

ITS ſituation is immediately under the Sagittal Suture: The ſituation of the Lateral Sinuſes is on the inſide of the *Os Occipitis* upon its middle Lateral Parts juſt above the *Cerebellum*. The courſe of the Lateral Sinuſes is continued to the right, and to the left internal Parts of the *Os Occipitis* quite to the internal and inferior Parts of the *Os Petroſum*; being partly confined in Grooves, till they arrive at the *Foramen* formed on each ſide the Scull betwixt the Baſis of the *Os Petroſum*, and the ſuperior Lateral Part of the *Proceſſus Baſilaris* of the *Os Occipitis*. The Lateral Sinuſes paſs out of the Scull through theſe irregular ſpaces; and at length they form thoſe Veſſels called the internal Jugular Veins.

UNDER the *Dura Mater* is placed a fine Membrane called ~~the~~ *Pia Mater*.

THE *Pia Mater* is compoſed of two *Laminæ*, theſe *Laminæ* are joined together by means of an intermediate cellular Subſtance. The ſuperior *Lamina*, which is very diſtinct on the *Medulla Oblongata*, is by ſome Anatomiſts treated of as a third Coat; from its texture, and ſuppoſed reſemblance to a Spider's Web, it is termed *Membrana Arachnoides:* This Membrane has no diſcoverable Blood Veſſels: In that particular it may be compared to the Cuticle.

THE *Pia Mater* inveſts every part of the Brain, to which it firmly adheres. The inferior *Lamina* of the *Pia Mater* forms ſeveral Elongations: Theſe Elongations inſinuate themſelves into the very ſubſtance of the Brain, betwixt its Circumvolutions.

THE *Pia Mater* is connected to the internal *Lamella* of the *Dura Mater* by many Veins which open into the Sinuſes: The *Pia Mater* is copiouſly ſupply'd with Arteries from the internal Carotid, and vertebral Arteries.

THE uſes of the *Dura Mater* are to line the inſide of the *Cranium*, and to ſerve the purpoſes of an internal *Perioſteum*. The *Dura Mater*

Mater ſerves likewiſe to defend the Brain from the Hardneſs, and Inequalities of the Bones of the Scull; it ſerves to contain, and partly to compoſe the Sinuſes of the Brain; and to form the ſeveral Proceſſes of the *Cerebrum* and *Cerebellum*.

THE uſes of the *Pia Mater* are, to inveſt the Surfaces, and even the internal parts of the *Cerebrum* and *Cerebellum*; as well as to ſupport the Ramifications of thoſe Veſſels with which they are ſupplied.

THIS brief Account of the Membranes of the *Cerebrum* and *Cerebellum*, with their principal Veſſels, I imagine, may be of ſome uſe ſo far as relates to the Explanation of thoſe Effects that are often produced from Fractures of the Scull, and from Concuſſions of the Brain: In ſome degree too, this previous Knowledge may poſſibly ſerve to account for the Cauſes of many of thoſe Symptoms that ariſe in conſequence of theſe Accidents, as well as give the younger Surgeon an Idea of the ſituation of thoſe Parts, which by Authors are taken notice of as improper Places for the Application of the Trepan.

FOR theſe Reaſons I have prefixed this ſhort Account of the Anatomy of theſe Parts to the

ſubſequent Caſes of Fractures of the Scull, and Concuſſions of the Brain; that by theſe means, the Deſcriptions which I have given of the Nature of the Accidents, their Conſequences, and the Methods preſcribed for relief, might more clearly be underſtood by thoſe who are not already perfectly verſed in the Anatomy of theſe Parts, than they otherwiſe could poſſibly have been.

CASE I.

Of a fractured Scull with a Wound of the Longitudinal Sinus.

IT is a Maxim with almoſt all Writers in Surgery, to ſpeak of the Impropriety and Danger of the Application of the Trepan, upon certain parts of the *Cranium*, previous to a Deſcription of the Operation. The Parts of the Scull which are look'd upon as improper for the admiſſion of the Inſtrument, are the Sutures in general, the Sagittal Suture in particular, the whole of the *Os Occipitis*, and the anterior, and inferior Part of the *Os Frontis*.

But

But notwithſtanding it may be right to have a general regard to theſe Rules, yet there are Inſtances where they cannot take place but by wholly neglecting the Operation.

THE particular Attachment of the *Dura Mater* to the Sutures of the Scull in general, and the Courſe of the Longitudinal Sinus under the Sagittal Suture in particular, are not ſufficient Reaſons for the abſolute forbidding the Application of the Inſtrument upon theſe Parts; ſince Fractures of the Scull are ſometimes ſo circumſtanced as abſolutely to require it, and the Patient is otherwiſe incapable of being reliev'd by the Operation.

THE Rule laid down by Mr. *Cheſelden*, in his Obſervation upon Monſieur *Le Dran*, ſeems to be too poſitive, where he ſays, "that no "Inſtrument ſhould ever be applied over the "Longitudinal Sinus, nor ought the Inſtru- "ment to be introduced between that and "the Scull."

As ſome Reaſon, and Excuſe for my diſſenting from the Opinion of a Gentleman ſo very eminent in his Profeſſion, and to whom the World is ſo greatly indebted for his many ſignal Improvements in Surgery, I am induced to offer the following Inſtance as a proof of its neceſſity

ſity under certain Circumſtances, and the little Danger there ſeems to attend even a Wound of the Longitudinal Sinus. An Inſtance of this Mr. *Cheſelden* has given us himſelf, where he ſays, " the Longitudinal Sinus, or the " Veſſels that empty into it, were wounded by " a Surgeon," ~~and~~ which he ſays, " the Surgeon " ſtopt by dry Lint; and had the good luck " to ſave his Patient.".

R. J. aged 13, on the 16th of *November*, 1749, was ſtruck with a pointed piece of Iron, upon the upper and middle Part of the Head, ſo immediately upon the Sagittal Suture as to force a bit of both Parietal Bones into the Longitudinal Sinus. Immediately upon receiving the Blow, the Boy fell down, and became ſenſeleſs; but in a few Minutes afterwards he recover'd; and continued well for ſix Days, at the end of that Time, he was ſeiz'd with Epileptic Fits, the returns of which were very frequent, accompany'd with Vomitings, and a Palſy of the left Side; *(Hemiplegia)* the Sight of his left Eye was perfect, but his right Eye was ſo affected as to make all ſingle Objects appear double to him. Theſe Symptoms continued till the 27th of *December* following,

lowing, when he was put under my care. Upon examination, I found the Circumſtances as deſcribed above; and immediately afterwards I proceeded to the Operation. Upon taking off the Scalp, there iſſued a continual ſtream of Blood from the Hole made through the Bone; I applied the Trepan ſo as to include the injured part of the Bone, and the Sagittal Suture, within the Crown of the Inſtrument. Upon taking out the circular piece of Bone, there appear'd a Wound which was made into the Sinus by the bits of Bone that were then found ſticking in it, which I enlarged with a Lancet, in order to extract them with leſs Violence. Upon taking out the bits of Bone the diſcharge of Blood was increaſed; but upon the Application of dry Lint, the *Hæmorrhage* ſtopt. Immediately after the Operation the Patient fainted, but ſoon recovered; in half an Hour's time, he expreſs'd an agreeable Senſation on his left Side; and by the next Morning, he had ſo well recovered the uſe of his Limbs as to be able to move them freely to any part of the Bed. In ſix Days after the Operation he perfectly recovered the Sight of his right Eye; from this Time he continued to mend till the 19th of *January* following,

when

when he accidentally receiv'd a Blow upon his Head. Soon after this Accident he complained of a Numbneſs in his left Arm, and a return of the Dimneſs in his right Eye. Upon taking off the Dreſſings, there appeared ſome Clots of Blood upon them, and his Head was conſiderably diſorder'd till the 26th of the ſame Month, when he grew tolerably well again. Upon obſerving a Fungus had riſen a conſiderable height above the Surface of the Scull, which would not ſubſide with proper Applications aſſiſted by Preſſure, I pared it off: This gave him very little Pain, but for a few Minutes afterwards he complained of a Numbneſs all over him, which ſoon diſappear'd, and he continued well till *February* the 2d; when he complain'd of a ſickneſs in his Stomach, and of acute Pains in both his Elbows. *February* the 3d, as I was dreſſing him, he was ſuddenly attack'd with a Shivering, and the *Dura Mater* appeared particularly prominent, this gave Occaſion to my dividing it; upon which I diſcover'd a piece of Bone ſticking in the Brain; the piece of Bone I endeavour'd to extract, but meeting with conſiderable reſiſtance in the Attempt, I was obliged to enlarge the Wound, which admitted of its being more eaſily removed.

A FEW Days after this, he complained of conſiderable Pain on the right Side, about two Inches below the old Wound; upon preſſure the Pain increaſed. The Head being ſhaved, there appeared a ſmall Diſcoloration; which, induced me to repeat the Operation upon this Part. Upon taking out the Bone, the *Dura Mater* appear'd conſiderably elevated, and diſcolour'd: For which reaſon I divided that Membrane, and gave Iſſue to a large Quantity of Matter, that was confined underneath it. On the next Day, he was free from Pain; but on the Day following, his Pulſe grew bad, and ſo continued till that Evening, when he expired.

UPON opening the Head, a conſiderable Quantity of Matter was found in the Subſtance of the Brain, particularly in the right Hemiſphere.

Query. Could the want of Succeſs in this Operation be attributed to the Wound of the *Sinus Longitudinalis?* Is it not reaſonable to hope that the Operation might have been ſucceſsful, if no extraneous Body had been lodged in the Subſtance of the Brain?

THE

THE Wound of the *Longitudinal Sinus* did not probably produce any dangerous Symptoms, becauſe it never bled again after being once ſtopp'd; (which was eaſily effected;) and if we credit the fourth Obſervation of *Marchetti*, there does not ſeem to be ſo much Danger attending a Wound of this Sinus as is generally apprehended by Surgeons.

CASE II.

Of a fractured Scull, where the Operation was ſucceſsfully perform'd upon the Lambdoidal Suture.

MAY 1754, *H. A.* aged 18, received a Blow on the poſterior part of the Head upon the Lambdoidal Suture, at the Diſtance of about an Inch and a half from its upper Angle, which lacerated the Scalp, and fractured the Scull. Upon examining the Wound, and finding it thus circumſtanced, he was immediately ſcalp'd, which gave me an opportunity of diſcovering the Nature, and Extent of the

Injury done to the Bone. The Fracture extended to about three Inches in length obliquely upwards upon the left Parietal Bone; and one of the *Ossa Triquetra* appear'd visibly depress'd and beaten inwards upon the *Dura Mater*. Upon receiving the Blow, the Boy fell down, and became senseless, these Symptoms were soon after succeeded by Vomitings, and a discharge of Blood from the Nose. In an Hour after the Accident, he was brought into the Hospital; and the Operation was perform'd so immediately upon the Lambdoidal Suture, as to include the depress'd Bone, which could not otherwise have been remov'd. Upon taking out the piece of Bone, the *Dura Mater* appeared prominent, and tense; I divided it with a Lancet, and gave issue to a Quantity of Serum that was confined underneath it. From the great Extent of the Fracture, I judged it necessary to apply the Trepan a second time, which was accordingly done upon the Parietal Bone, at the distance of about an Inch and half from the former Place. Here the *Dura Mater* was in its natural State; for which reason I thought it unnecessary to divide it. The next Morning after the Operation, the Patient was blooded on account of a fulness in his Pulse,

Pulſe, and of the Stupor which ſtill remain'd in ſome degree; in the Evening an emollient Clyſter was adminiſter'd, which afforded him immediate Relief; from this Time he continued to mend till he perfectly recover'd, which was in nine Weeks after the Operation.

REMARK.

IN the preceding Caſe, the Attachment of the *Dura Mater* to the Lambdoidal Suture appear'd very inconſiderable; ſeeing the Nature of the Accident was ſuch, as render'd the Application of the Inſtrument upon that Part, abſolutely neceſſary to the taking off the Preſſure from the ſubjacent Membranes and Brain, which they labour'd under from the depreſs'd Bone, I'm induced to think there could be no doubt of the Propriety of Operating upon the Suture. The courſe of the Longitudinal, and Lateral Sinuſes, were here quite out of the Queſtion. It has been obſerved by Writers, that when the Head receives ſo violent a Blow as to fracture the Scull, the natural Attachment of the *Dura Mater* to the internal Part of the *Cranium*, is broken off, and conſequently there can be very little Danger of injuring the ſubjacent Membrane with the Teeth of the Saw.

Saw. Again it is agreed, under ſome circumſtances, to be abſolutely neceſſary to divide the *Dura Mater*, to give iſſue to any extravaſated Fluid that is confined underneath it, which is ſometimes practiſed with ſucceſs. For theſe Reaſons I am of Opinion, that the abſolutely forbidding the Application of the Trepan upon theſe Parts, is a Rule too generally laid down by Authors; ſince by adhering too ſtrictly to this Maxim, the Trepan muſt neceſſarily be omitted in Caſes that are not otherwiſe to be relieved; in conſequence of which, the Patient is deprived of ſuch benefit as might probably accrue from the Operation: I have more than once ſince theſe Caſes were firſt publiſhed, perform'd the Operation of the Trepan upon the Sagittal Suture without bringing on any inconvenience.

CASE III.

Of a Man where the Operation of the Trepan had been ſucceſsfully perform'd upon the Os Occipitis.

IN the two preceding Caſes, I have given inſtances where it was abſolutely neceſſary to apply the Trepan upon the Sagittal and Lambdoidal Sutures. In the following, it will appear, that the Trepan may be likewiſe ſafely apply'd upon the *Os Occipitis*, contrary to the general Opinion of Authors.

On the 21ſt of *February*, 1753, I gave a Lecture upon the Brain of a Man who was executed at *Tyburn*. Upon ſawing through the Scull (which I have now by me) I obſerved that he had formerly been trepan'd upon the *Occipital* Bone. The Inſtrument appear'd to have been apply'd upon the *Os Occipitis*, at leaſt an Inch diſtant from the upper Angle of the Lambdoidal Suture, and very near to the left ſide of the *Sulcus*, which is form'd in that Bone for the Reception of the poſterior part of the Longitudinal Sinus.

THIS

THIS Operation muſt have been perform'd a conſiderable time before the Man was executed, becauſe there was a firm *Cicatrix* of the Integuments. There was not the leaſt appearance of a Callus which had ſhot from the Circumference of the Hole made through the Bone by the circular Saw. The Cure ſeem'd to be brought about merely by a ſtrict Adheſion of the *Dura Mater*, to the Circumference of the Opening made through the Scull, and by an elongation of the Integuments which compoſe the Scalp. The principal Reaſons given by Authors for the Impropriety of the Application of the Trepan upon this Bone, are theſe: The Unevenneſs of its external, and internal Surfaces; and the Courſe of the Longitudinal, and Lateral Sinuſes.

BUT the firſt Objection can be of no great weight; and as the chief Sinuſes poſſeſs only the upper, and middle lateral Parts of the *Os Occipitis*, the Operation may, contrary to the general Opinion, be ſafely perform'd upon this Bone, on either ſide the Lambdoidal Suture, as low down as the firſt occipital Ridge; correſponding to which, on the Inſide, are the lateral Sinuſes.

FROM what has been already obſerved in the preceding Caſes, I think it may be fairly concluded, that there is no part of the Scull upon which the Operation of the Trepan may not be perform'd in Caſes of Emergency, except at the anterior inferior Angles of the parietal Bones, on the internal Part of which the *Arteriæ Duræ Matris* run, and on the anterior and inferior Part of the *Os Frontis*, where its Tables are well enough known to be at a conſiderable Diſtance from each other in Adults, and by this means ~~to~~ form a Cavity diſtinguiſh'd by the Name of the *Sinus Frontalis.*

CHAP. II.

A Concuſſion of the Brain attended with uncommon and fatal Circumſtances.

THE celebrated *Celſus*, in his 4th Chapter, Book 8th, *De Calvariâ Fractâ*, aſſerts that the following Symptoms, to wit, Bilious Vomitings, a loſs of Sight, loſs of Speech, bleeding at the Ears and Noſe, a falling down, the Patient lying ſenſeleſs as if aſleep, do not happen

happen without a Fracture of the Bone. But notwithſtanding this Maxim be ſo poſitively delivered to us by that elegant and much approved Author, I am nevertheleſs certain that ſome or all of theſe Symptoms do frequently ariſe from violent Concuſſions of the Brain, producing an internal Extravaſation, where there is no Fiſſure or Fracture of the Bone to be diſcover'd; and I am farther aſſured that theſe ſhocks of the Head are productive of every bad Symptom, and very often of ſuch Symptoms and Conſequences as prove much worſe than thoſe that are in general obſerved to ariſe from Fractures of the Scull, where the greateſt Violence is ſometimes known to be done to one or more of its Bones, without communicating any great Injury to the Brain itſelf, and which admit of a ſucceſsful Treatment. In the ſame Chapter the great *Celſus*, ſometime after having delivered his Opinion upon this Subject, proceeds to ſpeak of the Cuſtom of his Predeceſſors regarding the proper Time for the performance of the Operation of the Trepan in Fiſſures or Fractures of the Scull; and he takes Notice, that it was the Practice of the more ancient Phyſicians to have immediate recourſe to Inſtruments, with which

they cut out the Bone in almoſt every Fiſſure or Fracture of the Scull; but, ſays *Celſus*, 'tis far the beſt Way firſt of all to try the effects of Plaiſters for ſeveral Days, that are compoſed on purpoſe for the Scull, before we proceed to the Operation, and not to make uſe of Inſtruments till there is an abſolute neceſſity for ſo doing, of which ſuch Symptoms muſt determine us as he deſcribes. The modern Opinion, amongſt Men of Judgment and Experience, is exactly conformable to that of the Phyſicians who lived before *Celſus*'s time, whom he ſtiles *Antiquiores Medici*; the Operation of the Trepan in Fiſſures or Fractures of the Scull (unleſs under very particular Circumſtances) being always judged adviſeable, and in general it is agreed, the ſooner this Operation is performed the more ſucceſsful it proves. It is alſo allowed to be equally adviſeable in Concuſſions of the Brain, when the Part injured is pointed out, and the Symptoms are ſuch as indicate a local affection; but where the Diſorder of the Brain ariſes from a general Concuſſion of the Head without any appearance of a local Complaint, we muſt under theſe Circumſtances have recourſe to Evacuations by bleeding in the Temporal Artery, Neck, or Arm, which are occaſion-

caſionally to be repeated; we muſt likewiſe have recourſe to Purges and gently ſtimulating Clyſters, to the Application of Bliſters to the back part of the Head, or to the back part of the Neck, which is the only Practice to be recommended in theſe Caſes, and merely becauſe there is no indication where to apply the Inſtrument; theſe Methods I have ſometimes known to ſucceed beyond my expectation: At other times I have obſerv'd when theſe Methods have been followed with the greateſt judgment that they have afforded a temporary Relief only, the Violence of the Symptoms recurring after ſeveral Davs interval, and at length terminating in Death; an Inſtance of which, on account of its ſingularity, I have thought proper to deſcribe in the following Words.

IN the Year 1748, *R. L.* a Boy of 14 Years of age, had the Misfortune to fall from the Maſt of a Ship, and to pitch upon the back Part of his Head a little above the Conjunction of the parietal Bones with the Occipital Bone; I was informed of his having been taken up ſenſeleſs. In a few Hours after the Accident, he was put under my Care; upon examination, the Scalp appeared

contuſed, and ſomewhat lacerated: The Symptoms then attending him were a ſlight bleeding at the Noſe, and Ears, accompanied with Vomitings; theſe I judged were ſufficient Reaſons for removing the contuſed, and lacerated Scalp; which was put in execution, that I might be enabled to form a more certain Judgment of the State of the Bone than otherwiſe I could have done: But as neither a Fracture, nor Fiſſure of the Bone appeared, I was induced to defer the farther Proceſſes of the Operation till I had tried the effects of more gentle Methods. In the ſpace of five Days after the Accident, the Boy was twice let Blood in the Arm, and had one purging Clyſter given him; theſe Methods relieved him ſo much, as ſeemingly to reſtore him to perfect Eaſe, and Health; in which ſtate he remained for ten, or eleven Days; during this time, he went abroad, and played about with his Companions as though nothing had happened to him; but on a ſudden, he was ſeized with a ſevere Rigor, ſucceeded by a feveriſh Heat; his Wound very ſoon after this Attack appeared Spungy, and dry; and his original Symptom of Vomiting returned: He now com-

complained of conſiderable Pain in the fore part of his Head; but he had no Complaint in the Neighbourhood of the Wound: At intervals he was delirious: For theſe Reaſons the Operation of the Trepan was thought adviſeable: It was debated which was the proper Part of the Scull for performing the Operation upon; whether on that part, which had received the Blow, or upon that Part which he now complained of; the latter was determined upon, and put in practice, but there was no Extravaſation betwixt the *Cranium*, and *Dura Mater* in this part; no Diſcoloration of that Membrane, nor was there any ſuch Elevation of it as indicated a lodgment of Blood, Serum, or Matter betwixt the *Dura Mater*, and the ſubjacent Membrane, *(Pia Mater)* his Symptoms were not at all relieved by the Operation. The Day after the Operation was performed the Patient died.

UPON opening the Head, the Cauſe of his Death very plainly ſhewed itſelf. A ſmall quantity of Matter was found betwixt the *Cranium*, and *Dura Mater*; and a conſiderable quantity of Matter and extravaſated Blood betwixt the *Dura Mater* and *Pia Mater*, immediately under that part of the Scull which

which had received the Blow: The other parts of the Brain and Membranes were not visibly affected.

Query. If the Operation of the Trepan had, immediately after the Accident, been performed upon the Part injured, is it not reasonable to suppose that the violent and unexpected Effects in this Case, arising from the Extravasation that was formed, and confined betwixt the *Cranium* and *Dura Mater*, and betwixt the *Dura Mater* and *Pia Mater*, would have been prevented? There seems to be no doubt of the propriety of answering this Question in the Affirmative. Again; were not the Symptoms attendant upon the Accident such as indicated a Necessity for the immediate performance of this Operation? It is plain from the Account I have given, I did not then think so; however the Event proved my Mistake. Since then, I have pursued different Methods under the like Circumstances; and upon the whole have been much more successful. At the time the Operation was performed, would it not have been more adviseable to have applied the Instrument upon that part of the Scull where the Blow was given,

given, rather than upon the Part where the Pain was? It is certain it would have been ſo; and I can very truly ſay, I was then of that Opinion; but in a Conſultation it was otherwiſe determined, which is the true Reaſon why it was not done upon the Spot where the Blow was received. The Removal of the bad Symptoms, the length of Time the Patient continued well after the diſappearance of theſe Symptoms, and the ſudden return of the original Symptom of Vomitings, preceded by a ſevere Rigor, are ſuch Circumſtances as, I believe, will be thought uncommon. But before I conclude, I think I may with propriety draw the following Inference from this Example: In all Injuries of the Head, attended with ſimilar Circumſtances, we cannot act with too great Caution and Circumſpection; and, I believe, it will in general be right to proceed as ſoon as may be to the Operation of Trepanning the Scull; for it is far more adviſeable to perform this Operation in a dubious Caſe, than to riſque the Conſequences of an omiſſion of it in a neceſſary one; which Doctrine may be ſupported by reflecting upon the following aſſurance, that the Danger in theſe Caſes does not

ariſe

ariſe from the Performance of the Operation, but entirely from the Injury which the Brain and its Membranes have ſuſtained, and will ſtill continue to ſuſtain, unleſs the immediate Cauſe of that Injury be removed.

CASE IV.

Of a violent Concuſſion of the Brain, and a Contuſion of the Scalp, attended with Loſs of Senſe, Delirium, and Rigors ſucceſsfully treated.

THOUGH the following is a common Obſervation amongſt the experienced in Phyſic, and Surgery, That when fixed and violent Pains of the Head, accompany'd with uncertain and repeated Rigors, followed by an acute Fever, are the Conſequences of any great Violence done to the Scull, the Brain, and its Membranes, there probably already is, or ſhortly will be, a Formation, and Collection of Matter upon the *Dura Mater*, the *Pia Mater*, or in the Subſtance of the Brain itſelf; and though it muſt be admitted, that the truth of this Obſervation has often been confirmed by

by Experience (the effects of which Symptoms, when they do occur, are much to be dreaded, and ought with the greateſt Care, and Expedition, to be guarded againſt) yet there are Inſtances which ſhew that this Remark is liable to exception: For it ſometimes does moſt certainly happen, that ſevere and repeated Convulſive Shiverings, *&c.* do ariſe from a Concuſſion of the Brain, an affection of the Nerves in conſequence of this Commotion, and an Inflammation and Tenſion of the Membranes of the Brain, without producing any viſible Appearance of a Suppuration or even an Extravaſation of Blood or Lymph within the Scull. An inſtance of ſuch a Caſe has lately occurred to my Experience, which on account of its Singularity, and the Utility this Obſervation may poſſibly be of to the younger Practitioner, I have here given an Account of.

S. W. 39 Years of age, on the ſixteenth of *June*, of this preſent Year 1759, applied to me for Relief on account of a violent Blow which ſhe had received on the ſuperior and anterior Part of the left Parietal Bone, by falling down two pair of Stairs with a Pail of Water in her Hand. She remained ſenſeleſs upon the

Ground

Ground for ſome Minutes after the Accident, before any one came to her aſſiſtance.

SOON after the recovery of her Senſes, ſhe was ſeized with Reachings, this Symptom returned two or three times every Day till ſhe made application to me (which was ſixteen Days after the Accident.) During this time ſhe was likewiſe afflicted with exceſſive Pain in the Head, and a Dimneſs of Sight, accompanied with ſevere Rigors, which were followed with an acute Fever: Theſe laſt Symptoms returned ſeveral times a Day, but at uncertain Periods; each Paroxiſm continuing a conſiderable Time.

SHE had no Appetite from the Day of the Accident, nor could ſhe get any Reſt. At intervals ſhe was delirious. She informed me, that about four Days before I ſaw her, a ſmall Diſcharge of bloody fœtid Mucus had iſſued from her left Noſtril; the Day after this Diſcharge, ſhe imagined her Head was in ſome degree relieved: But the Pain ſoon returned with great violence; and continued with the other Symptoms, till ſhe was Trepanned. About a Week after the Accident ſhe loſt ten Ounces of Blood from the Arm; this ſhe ſaid

was

was the only Method that had been taken for her Relief, till ſhe applied to me.

UPON examining the Head, I readily diſcovered a Contuſion upon that part of the Scalp where ſhe had received the Blow, with the remaining Marks of a ſmall ſuperficial Wound of the Integuments.

UPON preſſure, ſhe complained much of the Part that was contuſed. The very Morning of the Day I ſaw her, ſhe was attacked with ſo ſevere a Shivering, as put her whole Body into an extraordinary agitation (as I was informed by the Nurſe and ſeveral others that were preſent, and were Witneſſes of it.)

FOR theſe ſeveral Reaſons I cauſed her Head to be immediately ſhaved, and afterwards I proceeded to the Operation of the Trepan; which was performed upon the left Parietal Bone, after having remov'd a Piece of the Scalp of a circular form, and that ſomewhat larger than a Crown-piece.

UPON taking out the circular Bit of Bone, the *Dura Mater* appeared tenſe, and elevated; (but was very ſlightly if at all diſcoloured) at firſt, this gave me reaſon to ſuſpect there was an Extravaſation underneath this Membrane: But upon gently preſſing the *Dura*

Mater with my Finger, it readily ſubſided, and did not riſe up again: For which reaſon I thought an Inciſion through it was not only unneceſſary, but improper: The Wound was dreſſed with dry Lint, (which alone is generally ſufficient for ſtopping the bleeding of the Veſſels of the Scalp, *&c.*) and the Patient was blooded in the Arm to the quantity of ten Ounces.

THERE was no Extravaſation at all upon the *Dura Mater.*

AFTER the performance of the Operation of the Trepan, the Patient had no return of her Rigors, Reachings or any other of her bad Symptoms, except that ſhe now and then complained of ſlight Tremors.

DURING the Cure of her Wound Stools were occaſionally procured by Clyſters, and ſhe was for ſeveral Weeks kept upon a very abſtemious Diet.

IN conſequence of this Treatment, ſhe complained of a great Dejection of Spirits, attended with a low and languid Pulſe; but by the aſſiſtance of Volatile Cordial Medicines, and the application of a Bliſter to the Neck, with an allowance of more nouriſhing Diet than ſhe had hitherto been permitted to take ſince the

the Operation, theſe Symptoms were gradually removed.

THERE was nothing elſe worthy of communication that ocurred during the Cure, except it may be thought worth obſerving, that as the *Dura Mater* was very ſlightly bruiſed or diſcoloured, there was no Separation of its external *Lamina:* But the Exfoliation from the expoſed Bone was pretty large and thick.

Query. In the preceding Caſe of *S. W.* p. 29. could the Operation of the Trepan be ſaid to be abſolutely neceſſary, as there was no extravaſation of Blood, nor any Suppuration found within the Scull? And is it not probable that the Scalping of the Patient without applying the Trepan would have been ſufficient to have removed the Affection of the Membranes, the Brain and Nerves? It is poſſible it might have been ſo; and had I been applyed to upon this occaſion, when the Accident firſt happened, I ſhould at firſt only have removed the diſeaſed Scalp with the *Pericranium*, have largely evacuated by Bleedings, Clyſters, and Purges, which poſſibly might have ſucceeded. But as the Accident had been of ſixteen Days ſtanding, and the Symptoms remained with

great violence, I think there could be no doubt of the propriety of applying the Trepan; and this is more ſtrongly to be recommended in the like Inſtance; when we conſider that the Danger is not in the Operation, but in the Diſeaſe.

CASE V.

Of a Depreſſion and Fracture of the Os Frontis, *ſucceſsfully treated.*

J. C. five Years old in the middle of *November*, 1759, was kicked by a Horſe on the Forehead about an Inch above the external Angle of the right Orbit; he was brought into the Hoſpital immediately after the Accident, with a Laceration of the Scalp, and an evident Depreſſion of a Part of the Frontal Bone; which upon the introduction of a Probe through the external Wound of the Integuments, very evidently appeared to be complicated with a Fracture. The Boy was drouſy (*Comatoſe*) and ſenſeleſs, but had no other Symptom attending the Accident. Upon a removal of the injured Scalp, I was enabled to trepan

pan the Patient; which was done by applying the Inſtrument in ſuch a manner as to take in a Part of the fractured and depreſſed Bone. The Boy was relieved from this inſtant.

THE Wound was looſely covered with dry Lint; upon which was applyed a ſoft Pledgit of Tow ſpread with *Ceratum album*. The Patient was put to bed, loſt ſix Ounces of Blood from the Arm, and was kept ſtrictly upon a very ſparing and innocent Diet; by means of this Management, he went ſucceſsfully on without any alarming Symptoms till his Cure was compleated; which happened in about ſix Weeks. During the Cure of this, and the preceding Patient, there was not the leaſt troubleſome Fungus from the Wound. In both theſe Caſes there was an Exfoliation of a Part of the expoſed Surface of the *Cranium*, and in the firſt Caſe an Exfoliation not only happened to the Surface of the expoſed Scull, but there was a circular Exfoliation formed quite through both Tables of the Circumference of that Opening that was firſt made through the Scull; and there was likewiſe a ſeparation of the external *Lamina* of the *Dura Mater* from the internal *Lamina*.

REMARK.

IT is neceſſary to recollect that I did not inciſe the *Dura Mater* in either of theſe Inſtances, which from much Experience I am perfectly convinced ſhould never be done but in Caſes of abſolute neceſſity: For though I very well know this Proceſs of the Operation will give little or no Pain when executed with a ſharp Inſtrument, I am nevertheleſs ſatisfied, that when the *Dura Mater* is left entire, the frequent Inconveniences of a large Fungus, and a Part of the Brain itſelf puſhing out of the Scull through the Opening made in the Bone, will not only be prevented, but the Danger ariſing from the expoſure of the *Pia Mater* and Brain itſelf to the inclemency of the Air (eſpecially in cold Weather) at the times of Dreſſing, will be happily avoided: For though it is certain, that conſiderable Injuries of the Brain are ſometimes known to admit of a Cure, yet the Inſtances are few when compared with the Numbers that miſcarry under the like Circumſtances; therefore we cannot with Propriety make uſe of theſe Arguments as a reaſon for running our Patients into thoſe riſques which may ſo eaſily be

be avoided, by purſuing a different and more ſafe Method of treatment. When the Caſe is ſo circumſtanced as to render the wounding the *Dura Mater* neceſſary, it ſhould be done by making a ſingle Inciſion through that Membrane with the point of a Lancet, which Opening will be found large enough to give vent to any Extravaſation that is formed and depoſited underneath the *Dura Mater*; and in general, will be found ſufficiently large too to admit of the eaſy Extraction of a ſmall piece of Bone, or any other extraneous body that may happen to be forced into the Brain; but if in the latter Caſe, a ſingle Inciſion ſhould not be found ſufficient for that purpoſe, a ſecond muſt be made, ſo that the form of a Croſs may be deſcribed by the two Inciſions.

THE only Circumſtances, in my Opinion, under which an Inciſion through the *Dura Mater* is adviſeable, are theſe: Firſt, in caſe of a Laceration of this Membrane, it will be right to enlarge the Wound, to take off the preſent Tenſion it labours under, and to prevent an encreaſe of the Inflammation of that Part: Secondly, it will be adviſeable to inciſe the *Dura Mater*, ſuppoſing it to be elevated

by any ſubjacent Fluid depoſited betwixt that Membrane and the *Pia Mater*, to give iſſue to the Extravaſation; and thirdly, it will be right to divide the *Dura Mater*, to extract any foreign body that is forcibly driven through it into the Brain. The Ancients were very careful in preventing Injuries from happening to this Membrane, and it muſt be allowed too with very good reaſon, if we conſider its ſituation, as well as the ſeveral material purpoſes for which the Author of Nature has probably deſigned it. It will be generally adviſeable for the Patient to wear ſomething upon his Head after the Wound is healed, to defend the Part from external Accidents: For I believe it never happens that the Part from whence the piece, or pieces of Scull have been removed by the Operation, or otherwiſe, becomes ſo ſupplyed with Callus, as effectually to defend the Brain and its Membranes from the bad Conſequences of ſuch an accidental Blow, or rude Preſſure, as may poſſibly happen.

CASE

CASE VI.

Of a fractured Scull with a Wound of the Brain and a Paralyſis of the left Side, which after a variety of Incidents terminated in Death on the twenty-eighth Day after the firſt Operation.

J. W. aged 14 Years, was recommended to my Care in the beginning of *November* 1756, with a Palſy of her left Side: I was informed by the Parent of the Girl that about ten Days before ſhe applied to me, ſhe had received a Blow upon her Head with a pointed Inſtrument, which was almoſt immediately ſucceeded by this Symptom *(Hemiplegia:)* Upon Examination I diſcovered a very ſmall lacerated Wound of the Scalp; its Situation was ſo near to the Conjunction of the Sagittal with the Coronal Suture, that I was apprehenſive of its being circumſtanced like that of *R. J.* p. 10. already deſcribed: The Wound of the Scalp was large enough to admit of the end of a Probe, with which I diſcovered a ragged Orifice that penetrated quite through the Scull; this determined

me to proceed immediately to the Scalping of the Patient. Upon a removal of the Scalp, I obſerved a ſmall Portion of the cortical Part of the Brain puſhing outwards above the external Surface of the Parietal Bone, occaſioned by the bit of Bone that had forcibly been beat inwards. After the Scalp was removed I proceeded to the farther Proceſſes of the Operation: When I had ſawed through the outer Table of the *Cranium*, I went on with caution till the Bone became quite looſe, when it was looſe, I removed it with the Forceps: The piece of Bone that was forced into the Subſtance of the Brain, appeared ſo firmly fixed in this Situation as not eaſily to admit of extraction; for which reaſon I dilated the Wound of the *Dura Mater*; with the point of a Lancet, this rendered the extraction of the Bone eaſy. After the Operation was finiſhed, the Part was dreſſed in a ſuperficial manner with dry Lint, covered with a ſoft Plegit of Tow that was ſpread with white Cerate. Theſe Applications were kept on with a double headed Roller. In twenty-four Hours after the Operation the uſe of the Patient's right Side began to return, and in four Days after, ſhe perfectly recovered of the Palſy. From this

this time, ſhe continued in a very promiſing way till the end of the ſixteenth Day, when the Paralyſis returned; ſhe then complained of conſiderable Pain a little below the Part where the Operation had been performed; upon preſſure the Pain encreaſed; for theſe Reaſons, as well as on account of the Diſcharge being conſiderable in quantity, I proceeded to the performance of a ſecond Operation, about an Inch and half below the Edge of the former Wound. After the piece of Bone was removed, I examined whether there was any Lodgment of Blood or Matter betwixt the internal Surface of the Scull, and the *Dura Mater*; but as there was no ſuch appearance, I divided the *Dura Mater* with the point of a Lancet, upon a ſuppoſition that there might poſſibly be ſomething of that kind under this Membrane, or if there was no Extravaſation I judged that a more ready Iſſue would by theſe means be allowed of to the Impoſthumation above, but no Diſcharge followed this Inciſion; however, the Patient was conſiderably eaſed by the ſecond Operation, and continued ſo for two or three Days, when ſhe relapſed into her former Pain; the Pain remained with very little alteration till the twenty-fourth Day after the firſt Operation,

tion; on that Day, ſhe was ſeized with a *Diarrhœa*, attended with Delirium, and in four Days after this Attack ſhe expired. A few Days before her Death, the Diſcharge became extremely fœtid, it appeared black, and gradually diminiſhed.

I WAS not permitted to inſpect the Brain after her Deceaſe, which I ſhould have been glad of doing, that this Account might have been rendered more complete.

N. B. During the courſe of my Attendance upon this Patient, I obſerved that a conſiderable Fungus, or rather, that a part of the Brain had protruded through the firſt Opening that was made in the Scull: This Eminence continued till the performance of the ſecond Operation: Soon after which, it totally ſubſided at the place where the firſt Operation was performed, and appeared in as great a degree at the ſecond Opening that was made through the Scull, which continued till the Patient's Death.

CASE

CASE VII.

Of a Fracture of the left Parietal Bone of the Scull, attended with a ſeparation of the Coronal Suture, and a ſlight Depreſſion of the Os Frontis, *ſucceſsfully treated.*

ON the firſt of *November*, 1757, *M. F.* aged fifty-three Years, being engaged in his uſual Buſineſs at a Sugar Ware-houſe, and immediately aſſiſting in conveying an Hogſhead of Sugar by means of Ropes and Pulleys, into an upper Loft, the Ropes accidentally gave way; the Caſk fell down, and ſtruck the poor Man on the upper and fore part of his Head; he immediately dropped down, deprived of all Senſe and Motion. Upon his admiſſion into the Hoſpital, which was in a few Hours after the Accident, the ſtate of the Caſe appeared as is hereafter related. The Scalp was conſiderably contuſed, and lacerated; the anterior and lateral Part of the left Parietal Bone appeared to be broke, but without any viſible Depreſſion of it, the Fracture extended

to

to the Sagittal, juſt above its conjunction with the Coronal Suture: Seeing this, a large Piece of the Scalp was removed (by Inciſion) and the Bone being carefully diveſted of its immediate covering (the *Pericranium*) the Operation of the Trepan was performed upon the fractured Part, which being finiſhed, gave iſſue to a ſmall quantity of extravaſated Blood that lay upon the *Dura Mater:* Immediately after the Operation the Patient was removed to bed; and ſixteen Ounces of Blood were taken from his Arm. In a few Hours afterwards, the poor Man recovered his Senſes, and continued tolerably well till the third Day following, when he began to complain of conſiderable Pain in the fore part of his Head; of a dimneſs in his Sight, and at the ſame time he obſerved, that Objects appeared multiplied to him: His Pulſe was quick, and full; and by preſſing upon the right, and ſuperior part of the Scalp, near the Edges of the Wound, the violence of the Symptoms was encreaſed. This I conſidered as a ſufficient reaſon for the removal of a greater part of the Scalp than had hitherto been done; in conſequence of which, I was enabled to diſcover the Source of his Complaints, which aroſe from a ſeparation

of

of the Coronal Suture, and a ſlight Depreſſion of the upper Part of the Frontal Bone at its connection with the right Parietal Bone: To remove theſe Symptoms, I applied the Trepan, ſo as to ſecure the depreſſed Part of the *Os Frontis* within the compaſs of the Crown of the Saw; by theſe means I neceſſarily included a ſmall Portion of the Sagittal Suture, and of the Coronal Suture. Upon a removal of the piece of Bone, I diſcovered a ſmall Quantity of coagulated Blood lying looſely upon the *Dura Marter*, which being waſhed away with a ſoft Spunge dipt in warm Water, I covered the Wound with Doſſils of dry Lint, and put the Patient to Bed. In a very few Hours after the Operation, his Complaints were greatly abated; and from this time he continued to mend till the finiſhing of his Cure, which was in about ten Weeks after the performance of the firſt Operation. During the courſe of his Illneſs, he was occaſionally let Blood, purgative Clyſters were adminiſtered, and he was very ſtrictly confined to the moſt innocent Diet for near ſix Weeks, ſuch as thin Milk-pottage, Panado, Barley-water, and Sago: At the end of that time, I ſparingly allowed ſuch Solids as were of the innocent kind,

kind, to wit, Puddings, Chicken, boil'd Veal and Mutton.

CASE VIII.

Of a Depreſſion of the Os Frontis *and Concuſſion of the Brain, in which the Operation of the Trepan was ſucceſsfully apply'd.*

G. *S.* a young Gentleman betwixt 6 and 7 Years of age, in *July* 1758, accidentally fell from a Horſe, and pitched upon the upper part of the Forehead; he was taken up and carried home in a ſenſeleſs Condition. I was called to his Aſſiſtance in leſs than an Hour after the Accident had befallen him. I found him in a deep Sleep, attended with loud Snortings, juſt as though he had been in a Fit of Apoplexy. By preſſing upon the fore part of the Head the Integuments on the right Side felt very looſe and flabby, and the Impreſſion of my Fingers remained for ſome time; there was no Laceration of the Scalp, but it was not difficult to perceive there was a Depreſſion of the Scull. I adviſed the immediate Application of

of the Trepan, the Parents conſented, and the Operation was accordingly performed upon the depreſſed Bone. Betwixt the *Cranium* and *Dura Mater* there was a ſmall Quantity of extravaſated Blood, which I wiped away with a Spunge; the Wound was dreſſed ſuperficially with dry Lint, and the Boy was immediately let Blood to ſeven Ounces from the Arm; ſoon after this Treatment he gradually recover'd, and on the next Day was perfectly reſtored to his Senſes; there were no Difficulties attended the Cure, but ſuch as were removed by one or two occaſional Bleedings and laxative Clyſters. The *Dura Mater* was not ſo affected as to render it adviſeable to divide it, nor was there any ſprouting Fungus from the Wound during the Proceſs of the Cure, that was at all troubleſome. A piece of the Scalp, the ſize of a Crown-piece, was cut away to admit of a free uſe of the Trepan, and almoſt as much of the Surface of the Scull was deprived of the *Pericranium*; there was not the leaſt Exfoliation of the Bone, or Surface of the *Dura Mater*. In ſix Weeks the Wound was quite healed, and the Boy has been exceeding well ever ſince.

CASE

CHAP. *III.

Of the Operation of the Trepan.

THE manner of performing the Operation is this; The Patient being ſeated upright in his Bed, on a Stool, Table, or Chair of a convenient height, and properly ſecured by two or three Aſſiſtants, ſo that his Head, Arms, Legs, and Body may be kept as ſteady as poſſible, the Surgeon with a round edged Knife (ſuch as is made uſe of in cutting for the Stone, and on many other occaſions) muſt make a circular Inciſion, at leaſt as large as a Crown-piece, through the Scalp, which is to be diſſected up from the ſubjacent Bone: When the Scalp is removed, which can ſeldom be ſo effectually done as to clear away the Tendinous Expanſion of the *Occipito Frontalis* Muſcle, and the *Pericranium* at the ſame time, the Surgeon muſt proceed to a farther removal of theſe Parts, till the Bone becomes quite bare: This being effected,

effected, he muſt apply the Perforator to the *Cranium*, and bore a Hole ſufficiently deep for the point of that Pin which is fixed in the Center of the circular Saw, the uſe of which Pin is to keep the trepanning Inſtrument ſteady till the Teeth of it have made themſelves a Groove ſufficiently deep for preſerving it in a proper Direction, during the farther execution of this Proceſs of the Operation; when the central Pin muſt be taken away, that the Membranes and Brain may not be wounded in conſequence of its Projection: The Inſtrument muſt now with care be moved equally on every ſide in a circular manner, till we arrive at the *Diploe*, which is a cellular Body containing a greater or leſſer Quantity of bloody Marrow according to the Patient's age, and is ſituated betwixt the two Tables of the Scull: This *Diploe*, or *Meditullium*, has never once been wanting, (as I have yet obſerved) in the many Operations I have performed in living or dead Subjects, but in dried Sculls of old People I have now and then obſerved it to be quite obliterated in ſome parts of the Parietal and Frontal Bones, though ſeldom in Spaces ſo large as to equal the ſize of the Crown of the trepanning Inſtrument.

When we arrive at the *Diploe*, it is neceſſary to proceed with great Caution, leſt we inadvertently wound the *Dura Mater* with the Teeth of the Saw: Upon a removal of the piece of Bone (which ſometimes happens by its ſticking in the Cavity of the Inſtrument, and is at other Times neceſſary to be done with a pair of Forceps,) we are to proceed to the Elevation of the Scull in caſe of a Depreſſion of it: After having firſt made ſmooth the Circumference of the Bone with the Lenticular, if neceſſary: The raiſing up of the depreſſed part of the Bone may conveniently be done by one of the extremities of the Handle of the trepanning Inſtrument being carefully introduced betwixt the depreſſed Part of the *Cranium* and the *Dura Mater*, at the ſame time obſerving to exert ſuch a degree of Force with the Elevator as is capable of raiſing the Depreſſion ſo effectually as to render the external Surface of the Scull uniformly even. If a ſingle Operation be inſufficient to effect this (as I have often known it to be) a ſecond or third muſt be performed, that the Surgeon may be enabled to raiſe up every part of the depreſſed Bone; which Rule muſt ſtrictly be obſerved, otherwiſe the Operation

ration cannot be expected to be attended with ſucceſs, as the bad Effects of an oppreſs'd Brain muſt in part remain. The place where the Inſtrument ſhould be applied muſt be upon that part of the Scull which will admit of the uſe of the Elevator to the greateſt Advantage. During the uſe of the Saw, the bony Duſt muſt be removed by blowing on the Part, afterwards making uſe of a ſmall Pencil Bruſh to ſweep away more effectually that which remains behind in the bottom of the Groove: or if neceſſary he may employ the Point of a Tooth-pick for this purpoſe. The Teeth of the Saw are to be cleanſed by a ſmall Bruſh (which is to be met with in every Caſe of Inſtruments deſigned for this Operation) or by wiping them with a Cloth: If the Injury of the Scull be a Fracture with Depreſſion, the Inſtrument muſt be fixed upon the firm part of the Bone on one ſide of the Part broken, ſo as to include the Fracture, and a ſmall part of the depreſſed Bone within its Circle; but if the Fracture be not complicated with a Depreſſion of the Bone, the Center of the Inſtrument muſt be applied as near as may be to the Crack; becauſe in the firſt Inſtance the depreſſed Bone being moveable, on account of its ſeparation from

the neighbouring immoveable part of the Scull, is incapable of ſupporting the Preſſure that is neceſſary to be made upon the Part with the Inſtrument in the performance of this Operation; in Conſequence of which, the Membranes and Brain itſelf muſt be in danger of ſuffering conſiderably before the Operation can be finiſhed, if that Method be not followed. But this can by no means be the Caſe in the ſecond Inſtance where the parts of the Bone remain fixed, and upon an equality with one another. It may be obſerved that I have directed a Piece of the Scalp, as big as a Crown-piece, to be cut away, previous to the uſe of the trepanning Saw; but in ſome Inſtances it will be found neceſſary to differ from this Rule, and to take away a Piece of the Scalp at leaſt three Times as large, ſince Fractures are ſometimes found to extend quite croſs the Scull, even from one temporal Bone to the other; an Inſtance of which I was ſometime ſince conſulted in, where both the Parietal Bones, one of the temporal Bones, and the *Os Frontis* were conſiderably broke; in this Caſe I trepan'd the Patient in two Places, and took away a large piece of Bone beſides, which being ſeparated from its neighbouring Parts lay looſe,

and

and preſſed upon the *Dura Mater*. This was by much the moſt general Fracture of the Scull I ever ſaw, and I muſt acknowledge (from the great Degree of Preſſure which the Membranes and Brain had ſuffered, as well as from the State of Stupidity I found the Patient in) I had very little hopes of his Recovery, but he nevertheleſs did well, and has ever ſince enjoyed his perfect Senſes. It is now ſeveral Years ſince this Operation was performed. The manner of treating the Wound or Wounds, immediately after the Operation of the Trepan, muſt firſt be by ſtopping the *Hæmorrhage*, this may in general be done without tying the Veſſels; the next thing to be done is to wipe clean the Surface of the *Dura Mater* with a bit of ſoft Spunge dipt in warm Water, or with a piece of Lint ſecured upon the End of a Probe, and dipt in warm Oil, after this; dry Lint is to be laid looſely upon the whole Surface of the Wound. The Lint may be covered with a Pledgit of Tow ſpread with *Ceratum album*, or any other cooling Ointment that has neither Turpentine nor Reſin in it, which Ingredients very often prove too ſtimulating to the Skin when long continued, and occaſion troubleſome Itchings, attended with

Inflammation. The firſt Applications ſhould not be removed till three Days after the Operation, unleſs the Diſcharge from the Wound be ſo great as to make it neceſſary to do ſo; or the Patient ſhould complain of any uneaſineſs ariſing from the ſmell or ſtiffneſs of the Dreſſings. This Method of treating the Wound ſhould be continued during the whole Progreſs of the Cure, ſo far as relates to the *Dura Mater*, unleſs that Membrane has been contuſed, or it has been found neceſſary to divide it, under which Circumſtances it ſhould be dreſſed with ſuch Applications as are gently deterſive and moderately ſtimulating, till a Separation of the looſe and contuſed Part is form'd; ſuch for Inſtanceas the Honey of Roſes alone made warm, in which Doſſils of Lint muſt be dipt and applied to the Surface of the *Dura Mater*, or with the addition of an eighth Part of Brandy, or Tincture of Myrrh, added to the Honey of Roſes. Theſe Dreſſings are neceſſary when the Diſcharge is fœtid, and the Membrane looks looſe and diſcoloured; they muſt be continued till the Parts are quite clean, and Granulations begin to appear, when the uſe of dry Lint is to be preferred to all other Applications, at the ſame time obſerving

to

to keep a moderate Preſſure early upon the Part, to prevent, if poſſible, a luxuriancy of Fleſh; but if theſe Methods ſhould be found unequal to the Taſk, and the Fungus ſhoots up a conſiderable height above the Surface of the Scull, it muſt be removed by the Knife rather than by Ligature, eſpecially if Eſcharoticks, aſſiſted by ſtrict Compreſs and Bandage, have been ineffectually tryed. Every time the Patient is dreſſed the Wound ſhould be expoſed as little as may be to the Air, particularly in cold Weather. The frequency of dreſſing the Wound muſt depend upon the Quantity of the Diſcharge, but in general once in twenty-four Hours will be found ſufficient. As to Fomentations, emollient ones may be uſed for the firſt ten Days or Fortnight, after that, a ſoft Spunge dipt in hot Water, and uſed in ſuch a manner as to cleanſe the Wound, will generally be ſufficient for the purpoſe. I have taken Notice that it is ſometimes neceſſary to divide the *Dura Mater* with a Lancet, but for the propriety of this part of the Operation I refer to the Remarks upon the Caſes of *J. C.* p. 34, and *M. F.* p. 43. as well as for the general Treatment of the Patient ſo far as relates to Evacuations and Diet; but it is neceſſary to

obſerve, that during the Progreſs of the Cure, it will ſometimes be found adviſeable to give Cordial Medicines, and to apply Bliſters when the Patient is too much reduced by Evacuations and a thin ſpare Diet.

CHAP. III.

Of the Cataract.

THAT Diſeaſe of the Globe of the Eye which is diſtinguiſhed from other Diſeaſes of this Part by the term *Cataract*, is ſufficiently known to the Experienced to be an affection of the *Chryſtalline*, or middle Humour of the Eye.

WHEN the Malady is arrived at its utmoſt Period it is accompanied with ſuch an Opacity of this convex Lens as totally obſtructs the Rays of Light in their Paſſage, and conſequently prevents them from producing ſuch Effects upon the bottom of the Eye, as are brought about in a tranſparent or undiſeaſed State of it, provided the *Retina* and Vitreous Humour be perfect, and the *Cataract* not complicated with any other Affection of the Eye. But though the *Cataract* be impervious to the

Rays of Light, it muſt be remembered that ſome of the Rays fall obliquely betwixt the Iris and *Cataract*, and the Eye can diſtinguiſh Light and glaring Colours. To have a competent Knowledge of this Diſeaſe, and to be enabled to diſtinguiſh it from any other Defect of the Eye, it is previouſly neceſſary to be thoroughly acquainted with the Situation of the *Chryſtalline* Humour, with the changes of Colour this Humour naturally undergoes in ſome Subjects at different times of Life; and likewiſe to know that when the *Cataract* is complicated with any of the following Circumſtances, to wit, a conſiderable change of the ſhape of the Globe of the Eye; a thickening and cloudineſs of the *Cornea*; an inſenſibility of the Optic Nerve *(Gutta Serena)* which is expanded upon the whole of the bottom of the Eye, and forms that Coat known by the Name of the *Retina*, it is abſolutely wrong to attempt the Operation of Couching. It is likewiſe neceſſary to be aſſured that the ſucceſs of this Operation, which at beſt is precarious, is much more ſo when there is an Adheſion of any part of the diſeaſed *Chryſtalline* to the *Tunica Iris*: For in this Diſorder of the Eye it is not only proper to be acquainted

quainted with the manner of performing the Operation, but to be able to diſtinguiſh whether the Caſe be not attended with ſuch Circumſtances as may render the Attempt of it more than uſually uncertain, if not abſolutely improper. To determine whether the Globe of the Eye be or be not changed from its natural Size or Shape, is a very eaſy matter, by comparing it with a ſound Eye, or by merely reflecting upon the natural Form of this Body. If the *Cornea* be thickened, (as often happens after the Small Pox and in ſcrophulous habits of Body) that defect of the Eye may be readily known, by remembring that the *Cornea* is the anterior Coat of the Eye, and therefore cannot eaſily be miſtaken for the *Cataract*, which is an Opacity of that internal Part of the Globe whoſe ſituation is oppoſite to, and a little way behind the Pupil, vulgarly called the Sight of the Eye, by looking through which the Diſeaſe will diſcover itſelf by the *Chryſtalline* being changed into a cream colour, a pearl colour, or a darkiſh grey, *&c.*

IF there be ſuch a defect in the Expanſion of the Optic Nerve (which is the immediate ſeat of Viſion) as renders it inſenſible, and this be the only Diſeaſe of the part, the Patient's

tient's Eye cannot be affected by the ſtrongeſt Light, the Eye will be perfectly tranſparent, the Pupil will be extremely dilated, and there will, in moſt Inſtances, be no Motion at all of the Iris, at leaſt the Motion of the Pupil will be ſo ſmall as to be difficultly diſtinguiſhed.

FROM theſe ſeveral Circumſtances being compared with thoſe Particulars relating to the *Cataract*, it will be eaſy to underſtand the difference betwixt the few Diſeaſes of the Eye I have here taken notice of. However, I am convinced the beſt Method that can be taken to inform thoſe who have but a ſuperficial Idea of the Structure and Diſeaſes of the Eye, is to exhibit three Eyes; the firſt with a thickneſs and opacity of the *Cornea*, the ſecond with a *Gutta Serena*, the third with a *Cataract*; which I have often done for the Information of ſuch whoſe Education have not entitled them to a knowledge of theſe Diſeaſes, by which means they have received more immediate and permanent Inſtructions than they could otherwiſe have ſo ſpeedily acquired.

To explain what is meant by an Adheſion of the *Cataract* to the Iris, and to convey ſuch an Idea of this Circumſtance to thoſe who have not a previous knowledge of the Parts, I am apprized

apprized is a Taſk attended with ſome difficulty, becauſe it is firſt of all neceſſary to know that the *Chryſtalline* Lens is at a ſmall diſtance from the Iris in its natural ſtate, and by this means forms that Space which Anatomiſts call the poſterior Chamber of the Eye: However, I may pronounce, that under theſe Circumſtances of the Diſeaſe, the *Chryſtalline* Lens is either mov'd forwards, or the Iris is moved backwards to produce this Effect, and that if there be a complete Adheſion of theſe two Parts, the original Space betwixt the anterior Part of the *Chryſtalline* Humour, and poſterior Part of the Iris, in courſe becomes loſt, the action of the Pupil ceaſes, and the Rays of Light are incapable of being tranſmitted beyond the Iris and *Cataract*, on which account there remains no degree of Sight in that Eye; ſo that the ſtate of the *Retina* and Vitreous Humour conſequently cannot be judged of, which are ſufficient Reaſons for forbidding the Operation of Couching.

IF it be urged, that under theſe Circumſtances it may be adviſeable to perform the Operation of dividing the Iris above or below the *Cataract*, I anſwer, that the ſame Objections are to be made to this Attempt. In ſhort, to

ſpeak

ſpeak plainly and fairly, however ingenious that Operation of dividing the Iris may be thought (in caſe of an abſolute Contraction of the Pupil, or of a perfect Adheſion of the *Cataract* to the Iris) which was invented and recommended by that great Operator Mr. *Cheſelden*; I muſt confeſs I never yet ſaw a ſingle Inſtance of any good Effect ariſing from it, and therefore cannot recommend it as an adviſeable Operation under any Circumſtance whatſoever.

IF the Adheſion of the *Cataract* to the Iris be in part only, and the *Retina* be perfect, there will be a ſufficient Quantity of the Rays of Light tranſmitted obliquely betwixt the Iris and *Cataract* to the lateral parts of the *Retina*, to enable the Patient to diſtinguiſh Light, and ſometimes too ſuch Bodies as are white, or red. Under theſe Circumſtances of the Diſeaſe, the Operation is adviſeable in expectation of affording that Relief to the Blind, which they by any other means have very little Chance of attaining to: The probability of which may be learned from the following Caſe of *W. L.* But before I proceed to relate it, I muſt obſerve, that if one Eye only be affected with a *Cataract*, and the other

other be perfectly ſound, or in a conſiderable degree uſeful, the Operation ſhould never be undertaken, even ſuppoſing the Diſeaſe to be of the moſt favourable kind: For let the Succeſs of the Operation be ever ſo happy, the Eye from which the *Chryſtalline* Lens is removed cannot be reſtored to a Degree of perfection at all equal to that of the ſound Eye, without the conſtant uſe of a very Convex Glaſs.

CASE X.

A ſhort Account of ſome extraordinary Facts attending the Operation of Couching, &c.

W. L. aged 26, about nine Years ago was ſuddenly attacked with a Dimneſs in both his Eyes, which happened without any previous Accident or Pain in the Head; the Diſorder continued for three Years in much the ſame State, when it began to increaſe, and ſo continued till he became incapable of diſtinguiſhing Objects. He remained under theſe Circumſtances till *March*, 1748, when he came to *London*, and put himſelf under my Care.

THE

THE Diſeaſe was a *Cataract*, or Opakeneſs in each of the *Chryſtalline* Humours; that in the right Eye appeared to adhere to the inferior Part of the Iris, but without any Defect or Alteration in the ſhape of the Pupil. He was capable of diſtinguiſhing Light, and Colours. In the left Eye, the *Chryſtalline* Humour was adherent to the greateſt Part of the Iris. The Pupil extended beneath the *Cataract*, and had changed its Shape from a Circle, to an oblong; through the lower Part of which, a ſmall Share of Light was admitted to the bottom of the Eye.

FROM theſe Circumſtances, I judged it improper to meddle with the left Eye, and at the ſame time conſidered the Event of the Operation as precarious in the Right. However, I undertook it upon a probability of Succeſs, and couched the right Eye on the third of *April* following.

UPON endeavouring to depreſs the *Cataract* I perceived it to make a conſiderable Reſiſtance to the Inſtrument, which was occaſioned by its adheſion to the inferior Part of the Iris: So that I was obliged to direct my Needle underneath the *Cataract*, and lift it up, before I could diſengage it from the Iris; which

I effected with ſome difficulty, and at length depreſſed it.

THE Patient ſuffered very little Pain from the Operation. In ſix Days after, I examined the Eye, when the *Cataract* appeared to have reſumed its former Situation.

ON the third of *May* following, I couched the Eye a ſecond Time; the *Cataract* ſubſided much more eaſily than before; this Operation was attended with as little Pain as the preceding: Upon examining the Eye a Week after, I perceived the *Cataract* to have riſen a ſecond Time, but ſo imperfectly, as to cover the lower Half of the Pupil only. The upper Half of it appeared clear, and he could diſtinguiſh Letters through it, by the help of a Convex Glaſs.

I WAS in hopes from this Appearance, that the *Cataract* might in time have ſubſided (as I have frequently known it do under the like Circumſtances) without any farther Trial. But on account of the little Pain the Patient had ſuffered from theſe Operations, he inſiſted upon a Third, which I performed upon the twenty-third of the ſame Month, and the *Chryſtalline* was eaſily depreſſed. But ſuch was the Diſpoſition of the *Cataract*, that it roſe

roſe up a third time, but in ſo ſhaking and waſted a Condition, as to promiſe a ſpeedy Diſappearance. However, the Patient remaining diſſatisfied, and unwilling to return Home upon a bare Probability of its waſting away; I was prevailed upon to perform the Operation a fourth Time.

THE *Cataract* immediately ſubſided upon the ſlighteſt Touch of the Needle, and did not appear again.

THE Patient, in a Fortnight after the Operation, was capable of reading and writing, with the Aſſiſtance of a Convex Glaſs, and now ſees well enough to follow his Profeſſion of Surgery and Pharmacy. It is remarkable that there was hardly any Inflammation or Pain, in conſequence of either of theſe Operations.

WHEN he firſt began to look at a Candle, or any other ſingle Object, it appeared to him multiplied; and when he firſt read, he conceived of Letters as remaining imprinted upon the Bottom of the Eye for ſome Hours afterwards, but by a little uſe theſe *Phænomena* were quite removed.

REMARK.

FROM this Example it appears, how difficult it is to remove the *Cataract* effectually, when compliicated with an adhesion of it to the Iris: and again, how warrantable it is to repeat the Operation with a Probability of Success, in such Cases as are attended with the like favourable Circumstances.

IF the *Chrystalline* had been totally removed by Extraction, these Returns of the Disease could not have happened. But I am inclined to think, that if it had been attempted by opening the *Cornea*, the Operation would not probably have terminated so happily; since the Vitreous Humour must in all likelihood have been wholly, or in a great part discharged, in endeavouring at a Removal of the *Chrystalline:* Instances of which I have known to occur, attended with such Circumstances, as to render a second Operation impracticable. So that however successful this Method of Operating may have proved in *Cataracts* that are quite free from Adhesion; yet I think the Operation is not likely to be attended with equal benefit, when they are otherwise circumstanced.

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MONSIEUR *Daviel*'s own Accounts of the Succeſs attending his method of opening the *Cornea*, and extracting the *Chryſtalline*, are ſo very extraordinary, as almoſt to exceed probability; and I cannot help conſidering them as partial, when I reflect upon the Accounts given us of the very different Succeſs attending this Operation, when performed by others in nearly the ſame manner, as well as from my own Experince.

FROM the reſult of thoſe Experiments, which were made upon nineteen Eyes by M. *Morand*, M. *Poyet*, and by M. *De la Faye*, of which there is a particular Account given in the Memoirs of the Royal Academy of Surgery at *Paris*, printed in the Year 1753, it appears that the Benefit attending both methods of Operating is ſo nearly equal, as to make it uncertain which of the two is attended with the greateſt Succeſs: So that, in all probability, both methods of Operating may be found to have their Advantages in particular Caſes.

SINCE I have taken the Liberty of making ſome Remarks upon M. *Daviel*'s own Account, of the great Succeſs attending his method of the Removal of *Cataracts*, by extracting the *Chryſtalline* Humours; perhaps

it will not be unacceptable, ſhould I make ſuch an Abſtract from his own Memoir as immediately relates to this particular, and the manner of his performing theſe Operations; upon preſumption of meeting with this Indulgence, I have added a ſecond Abſtract relating to the Event of thoſe ſeveral Operations which were performed by M. *Morand*, M. *Poyet*, and M. *De la Faye*.

CHAP IV.

The Manner of Couching.

THE Method which I take for performing the Operation is this; the Patient is ſeated upon a Stool of a convenient height; immediately behind the Patient is placed an Aſſiſtant, who ſupports the Head, and inclines it a little forwards, by preſſing gently againſt the back part of the Patient's Head, with his Breaſt alone, or by the aſſiſtance of a Pillow placed betwixt the Aſſiſtant and the Patient if neceſſary; the ſame Aſſiſtant muſt carefully lift up the ſuperior Eye-lid, and preſerve it in this Situation by gently preſſing it againſt

againſt the upper part of the *Orbit:* At the ſame time, the Operator muſt gently depreſs the inferior Eye-lid with the Finger of his left Hand; ſuppoſing the Operation be performed upon the left Eye; taking care that the Globe of the Eye be not ſqueezed. Two Aſſiſtants, one on each Side, muſt ſecure the Patient's Hands; theſe things being done, and the other Eye covered with a ſilk Handkerchief, or any thing elſe that is light and pliable; the Patient muſt be directed to look ſtraight forwards, or with the Eye a little inclined towards the Noſe; the Operator then muſt ſuddenly penetrate the Globe of the Eye with the couching Needle (which has firſt been made warm by dipping the Blade of the Inſtrument in hot Water) through the *Tunica Albuginea*, at a very ſmall diſtance beyond the Circumference of the *Tunica Cornea*, and as exactly as poſſible in a line with the moſt External part of the Circle of the Pupil; the Inſtrument muſt be cautiouſly puſhed forwards, till it appears behind the Pupil, which it will always do when the Eye remains tranſparent, and the Eye-lids are kept open: The Operator muſt now take care to preſs the *Cataract* gently downwards, and a little outwards, with the

flat Surface of the Inſtrument, which will ſometimes be immediately and happily effected; but if the *Cataract* ſhould not readily ſubmit, the Needle muſt be carefully moved underneath the *Cataract*, and gently raiſed up; by which means the *Cataract* may be ſeparated from the *Proceſſus Ciliares* and *Aranea* below, and may at the ſame time be diſengaged from the inferior Portion of the *Tunica Iris*, (ſuppoſing it to be ſlightly connected with that Membrane) which cannot always be foreſeen: After the *Cataract* is thus lifted up, ſuppoſing it not to fall below the Pupil by its own weight, the Direction of the couching Needle muſt be altered and conveyed a little above the upper portion of the Circle of the Pupil, afterwards inclining the Inſtrument downwards, and obliquely outwards; by theſe means the *Cataract* will be ſo effectually diſlodged from the Bed of the Vitreous Humour, and its nutrient Veſſels probably be ſo much deſtroyed, as to bring on a gradual Decay of it. In introducing the Needle through the Coats of the Eye, to wit, the *Tunica Conjunctiva*, *Albuginea*, *Sclerotica*, *Choroides* and *Tunica Retina*, it will be right to do it with the flat Surfaces of the Inſtrument, looking upwards

and

and downwards; ſince by this method, the wound through the Coats of the Eye will be made with the direction of the Fibres, and conſequently leſs Violence be done in the Operation than if the Blade of that Inſtrument had penetrated the Eye in a different direction. When the Operation is finiſhed, the Patient's Eye muſt be immediately covered with ſome repellent and cooling Ointment ſpread upon Rag, ſuch as the *Unguentum Tripharmacum*, *Saturninum*, or the *Coagulum Aluminoſum*. He muſt be let blood, and kept in a dark place ſo long as the Pain and Inflammation remain. After the Operation, the Patient muſt ſit upright for ſome Hours, as this will be the moſt favourable Poſture for preventing the riſing of the *Cataract*. To render the *Cataract* ſtill the leſs liable to reſume its natural Situation, as well as to prevent a Fever, the Patient muſt live abſtemiouſly for ſome Days, and take ſuch Food as requires little or no chewing. It now and then happens, that a vomiting follows this Operation; but that Symptom ſeldom remains long; when it has proved more ſtubborn than uſual, I have known a Grain of *Opium*, or an Ounce of Syrup of *Diacodium*, remove it. Fomentations

of warm Milk applyed to the Eye-lids twice or thrice a Day, and continued for five or ſix Minutes each time by the help of a warm Sponge or a bit of fine Rag, are neceſſary ſo long as any Inflammation, Pain or Stiffneſs of the Eye remains. If the Eye ſhould continue weak, and be attended with a more than common Secretion of the Tears, after the Inflammation and Pain are removed, I have, in ſuch inſtances, made uſe of cold Spring-water with a third part of Brandy, to advantage: At other times, I have uſed the *Aqua Sapphirina*, lowered with common Water, with which the Eyes have been waſhed Morning and Evening; obſerving at the ſame time, not on a ſudden to expoſe the Eyes to much light, but to uſe them to it gradually. The length of time neceſſary for confining the Patient's Eyes from the Light is quite uncertain; in ſome, there is very little Inflammation or Pain after the Operation; in others, there is a great deal of both, attended with very ſevere Head-Aches; when theſe Symptoms occur the Patient muſt take ſome cooling Purges, and if neceſſary perpetual Bliſters ſhould be applyed behind the Ears, or to the nape of the Neck.

IN one Inſtance of a Boy born with *Cataracts* in both Eyes, which I at two ſeveral times endeavoured to depreſs with the couching Needle, I found them ſo uniformly ſoft that they made no reſiſtance at all to the Inſtrument, but admitted of its paſſing through and through them juſt as it is known to do through the Aqueous Humour of the Eye: The Boy received no benefit from the Operations. This is not that ſpecies of *Cataract* diſtinguiſhed by the name of the Bag *Cataract*, which is of the conſiſtence of Cream, is contained looſely in the Coat of the *Chryſtalline* Lens called by Anatomiſts the *Aranea*, and which upon being wounded evacuates its Contents, and diffuſes them in the anterior and poſterior Chamber of the Eye, mixing with the Aqueous Humour, and rendering the Eye turbid for ſometime; but it is a ſpecies of *Cataract ſui generis*, which is rarely met with; and which, from any Appearance it has before the Operation is performed, I believe cannot be aſcertained. The ſpecies of *Cataract* I have juſt now deſcribed may probably be more frequently met with in young than old People, as the *Chryſtalline* Lens, in its natural State, is known to Anatomiſts to be more ſoft in

Infants

Infants than in Adults. Since this particular Caſe has occurred to me I have couched a young Lady of thirteen Years of age, who was born with *Cataracts*, but there was no appearance of this liquid State of the Diſeaſe. The Operation was performed on both Eyes, one of which ſucceeded very well: However it happened in this Caſe that the *Cataracts* were more ſoft and gave leſs reſiſtance to the Inſtrument than could be wiſhed, which indeed ſometimes happens in the moſt advanced times of Life.

THE couching Needle ſhould be made at leaſt a third part larger than thoſe generally uſed upon this Occaſion, as great advantages will be found in the depreſſion of the *Cataract*, by the increaſed Breadth of the Blade of that Inſtrument.



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J. Mynde sc.

A ſhort Abſtract from the Memoirs of the Royal Academy of Surgery at Paris, *of an Account of the Operations of the* Cataract, *for the Extraction of the* Chryſtalline, *done by Monſieur* Poyet, *before the Commiſſaries of the Academy, as drawn up by Meſſieurs* Morand, *and* Verdier.

THE Academy has obſerved with pleaſure, the Eagerneſs which has been ſhewn to make the Operation for the *Cataract* more ſimple and perfect, by extracting the *Chryſtalline*, which has been ſucceſsfully practis'd by M. *Daviel*, who has himſelf given an Account of this Method, Page 337. See *Acad. Royal of Surg.* at *Paris*, printed *Anno* 1753. Several Perſons have invented an Inſtrument, and almoſt at the ſame Time, with which the *Cornea* might be divided in ſuch a manner as to make one Inſtrument only neceſſary.

MONSIEUR *Poyet*, formerly Surgeon of the *Hôtel Dieu*, and lately appointed Surgeon of *La Charité*, hath preſented one of his own Invention. A little time afterwards, Mr. *Sharp* of

of *London*, ſent to M. *Morand* the Deſign of another Inſtrument, which he had exhibited to the Royal Society.

MONSIEUR *Poyet* has already made ſome Experiments upon dead Bodies with his Inſtrument, before the Commiſſaries named by the Academy for that purpoſe: They report that it appear'd to them to have ſucceeded particularly well. M. *Morand*, from that time, engaged to aſk leave of the Governors of the Hoſpital of Invalids, for M. *Poyet* and M. *La Faye*, to operate, which they conſented to, out of regard to the great zeal which the Surgeons of *Paris* ſhew for their Art.

MONSIEUR *Morand* aſſembled nineteen People diſeas'd with proper *Cataracts*, who were prepar'd for the Operation; and on *June* the 11th, 1753, they were all operated upon, one after another. Six of the Operations were perform'd by M. *Morand*, ſix by M. *La Faye*, and ſeven by M. *Poyet*; of which take the following Account. M. *Morand* endeavour'd to depreſs the *Cataract* of M. *Vallot*, an Officer aged 65 Years, but from ſome unaccountable Accident it eſcaped from its Bed, upon being touch'd with the Needle, and was ready to paſs into the anterior Chamber of the Eye.

Upon

Upon which M. *Morand* recommended the Patient to M. *Poyet*, as a favourable Opportunity of trying his Operation, which M. *Poyet* accepted of. When the *Cornea* was ſufficiently divided, the *Chryſtalline* immediately follow'd without any preſſure at all, and no Accident happened. The Cicatrix of the *Cornea* appear'd firm on the eighth Day. The Patient was viſited by the Commiſſaries on *July* 11, and 25, when he declar'd he could not diſtinguiſh Objects. Upon Examination, it was found he had a *Gutta Serena*; and beſides this, a ſecond *Cataract* was form'd by a thickening of the Membrane which inveſts the Bed of the vitreous Humour.

John Baptiſt Roux, aged 65, was operated upon next by M. *Poyet*; after the *Cornea* was divided, the *Chryſtalline* fell out upon the Eye being gently preſs'd; the Patient had only a ſlight Inflammation of the *Conjunctiva*; he was viſited by the Commiſſaries on *July* the 11th, and could diſtinguiſh Objects. He was viſited again on *July* 25, and could only ſee Day-light; his Eye was attacked with an Inflammation; upon the whole, he ſees but little.

Peter

Peter Mercier, aged 64, was next operated upon, by M. *Poyet*, he had no bad Symptoms after the Operation: he ſees very well. The Pupil has chang'd its Figure, and is not quite round.

Francis Riviere, aged 56, was operated upon next, the *Cornea* of his right Eye was opened by M. *Poyet*; the *Cornea* of his left was opened by M. *La Faye*; he has had no Accident in the right, but has ſuffered greatly in the left Eye; he can ſee Light, but cannot diſtinguiſh Objects.

Julien Le Gendre, aged 70, had his *Cornea* opened by M. *Poyet*; he has had no Accident; the Pupil has chang'd its ſhape, and he can diſtinguiſh Colours.

Claude Boucher, aged 72, had both his Eyes very much ſunk, and his Eye-lids a little cleft: The Section of the *Cornea* of the right Eye was a little too ſmall, by which means M. *Poyet* was obliged to preſs the Eye a little more than uſual, to ſqueeze out the *Chryſtalline*. A conſiderable Inflammation ſucceeded this Operation, which was followed with a Suppuration of the whole Globe of the Eye, and the Patient loſt the Sight of it. The left Eye had

no

no Accident; the Patient with that ſees indifferently well.

SUCH was the State of M. *Poyet*'s Patients on *July* the 25th, which was ſix Weeks after the Operations.

IT now remains for us to tell his Opinion upon ſome Points, and compare his Operations with the others. M. *Poyet* thinks the Inſtrument for cutting the *Cornea*, ought to be ſtraight like his own; he pretends that the Iris is by that means leſs liable to be wounded, and that the Section of the *Cornea* made with an Inſtrument a little convex, becomes more difficult.

Mr. *Sharp*'s Inſtrument is alſo ſtraight, M. *La Fay*'s Inſtrument is a little curv'd on the fore part of its Blade. But we have not been able to diſtinguiſh any difference in their advantages. They each of them had one Patient whoſe Iris was a little wounded.

MONSIEUR *Poyet* attributes the Inflammation which befel the Eye of one of his Patients, to the *Conjunctiva* being wounded; but we do not think this a ſufficient Reaſon to account for it. However, we agree with M. *Poyet*, that the *Cornea* ſhould be divided two thirds of its Circumference to facilitate the

Exit

Exit of the *Chryſtalline*, if it preſents itſelf readily; or to be able by this means to cut with eaſe the *Capſula* of the *Chryſtalline*, if it adheres too much to its Bed. We do not think that the Impoſthumations which happened to the Eye, operated upon by M. *La Faye*, and to that operated upon by M. *Poyet*, are to be attributed to their Inſtruments. Theſe Accidents have happened to M. *Daviel*; nor do we think theſe Accidents peculiar to the Operation of the *Cataract* by extraction of the *Chriſtalline*, ſince we have ſeen them happen in the common method of Couching.

IN fine, we will give a ſhort Account of the Succeſs of theſe nineteen Operations which have been ſucceſſively perform'd.

OF the ſix *Cataracts* couch'd by M. *Morand*, in the common Method, three have ſucceeded, and the Patients ſee very well; three of the *Cataracts* are riſen again.

OF the ſix which M. *La Faye* has operated upon by extracting the *Cataract*, there are two that ſee well, two who ſee not ſo well, and two who do not ſee at all.

OF the ſeven operated upon by M. *Poyet*, two of them ſee well, two not ſo well, one ſees Day-light, two do not ſee at all.

THIS

THIS is a true Account of the Proceedings and Succeſs of the Operations; but we are not anſwerable for any Accidents which may have happened ſince our laſt Examination, as they would be foreign to the Operation.

Abſtract from the Memoirs of the Royal Academy of Surgery at Paris, *publiſh'd Anno* 1753.

IN Page 338, M. *Daviel* diſtinguiſhes *Cataracts* into two Species only; one he calls the true *Cataract*, or that of a good kind; the other he calls the falſe *Cataract*, or that of a bad kind, when it is accompanied with other Diſeaſes. He ſays, it is not the Colour of the *Cataract* which determines the good Species, but other Circumſtances, ſuch as the Motion of the Pupil of the Eye, and the Ability of diſtinguiſhing Day from Night.

MONSIEUR *Daviel* ſays, he receiv'd the firſt hint of this Operation from an Accident which happened to him in couching the common way; the *Chryſtalline* was broke into Pieces, and eſcaped into the anterior Chamber

of the Eye. This determin'd him to open the *Cornea tranſparens* to empty the anterior Chamber, after which, the Pupil appear'd clear, and he could diſtinguiſh Objects; but in ten Days after the Operation, there enſued an Inflammation and Suppuration of the Eye, which he attributed entirely to the Violence done to the vitreous Humour, and to the inner Membranes of the Eye in his firſt Attempt; this made him determine not to proceed for the future in the ſame Method, but to begin with opening the *Cornea*, and afterwards to introduce a ſmall Spatula into the anterior Chamber of the Eye, and to diſlodge the *Chryſtalline* from its Bed; which he did upon a Woman, and ſhe was cured in fifteen Days.

THE event of this Operation induced him to try it upon four more, which he did with Succeſs. But, ſays he, there appeared to me to be ſtill many things wanting to perfect this Method. After theſe four, he tried the ſame Method upon ſeveral others, but not with equal benefit. From this time he thought proper to try a new Method of Operating. The preceding Operations had been performed by three Inſtruments, *viz.* a curved Needle, a

pair of crooked Sciſſars, and a ſmall Spatula. But he now undertook the Operation with two Inſtruments only, one like a ſmall Biſtory, with which he opened the *Sclerotica:* Afterwards he introduced a ſmall Spatula through the ſame opening into the Eye, betwixt the poſterior part of the Iris, and the *Chryſtalline* Humour, and by this means eaſily depreſs'd the *Cataract*.

A GREAT many Operations of this kind being attended with ſucceſs, as many eminent Surgeons, he ſays, can teſtify, he thought for ſome time this Method preferable to any other. He put in practice all the different Methods of Operating, and with all the different Inſtruments: But he found upon the whole, that when the vitreous Humour, and the ſeveral Membranes that are ſituated behind the Iris, are diſturbed by the Needle, there very often ſucceeded Inflammations and Suppurations of the Eye, and ſometimes an Atrophy of the Globe, with other Accidents. On which account he at length dropped this Method, and determined for the future to operate by opening the *Cornea*, as he had done at firſt.

IN the following Manner, he ſays, he has performed two hundred and ſix Operations, out of which, one hundred and eighty two have ſucceeded.

IT is of no Conſequence (he obſerves) of what kind the *Cataracts* are, whether ſoft, hard, of long ſtanding, or of different Colours. The Operation will ſucceed equally well, if the Eyes be ſound in other reſpects, becauſe the principal Intention of his Operation is the Extraction of the *Chryſtalline*, which is eaſily effected by theſe means. The Inſtruments he employs are a curv'd Needle with a ſharp Point, and ſides like a Lancet; a blunt pointed curv'd Needle, with ſharp ſides; a pair of crooked convex Sciſſars; a ſmall Spatula of Gold, Silver, or Steel, a little curv'd, to lift up the *Cornea* with; another ſmall pointed Needle, which cuts on both ſides to open the *Capſula* of the *Chryſtalline* Humour; a ſmall golden, ſilver, or ſteel Curette to facilitate the Iſſue of the *Chryſtalline*, or to draw out the remaining Fragments when they ſtick to the edge of the Pupil; and beſides theſe, a ſmall pair of Pincers to take out any pieces of the *Capſula* of the *Chryſtalline*. The Method of his Operating is this; he places the Patient

Patient oppoſite to him, upon a ſeat of a convenient height, and covering one Eye with a Bandage, the upper Eye-lid of the other is held up by an Aſſiſtant placed behind the Patient, and the under Eye-lid is held down by the Operator, who places his Elbow upon his Knee by way of ſupport to his Arm; then he plunges the firſt Inſtrument like a Lancet into the bottom of the *Cornea*, near the *Sclerotica*, and thruſts it a little above the Pupil, taking care not to wound the Iris; this being done, he withdraws this Inſtrument; then introduces the blunt pointed Needle, with which he enlarges the Inciſſion by cutting on each ſide ſtill more; as the *Cornea* is now grown flaccid, he makes uſe of a pair of curved convex Sciſſars, with which he enlarges the Wound on each ſide ſtill more, till the *Cornea* is divided near three parts round; then he introduces a ſmall Spatula into the Wound, with which he lifts up the *Cornea*, and afterwards proceeds to wound the *Capſula* of the *Chriſtalline* with a ſharp ſmall couching Needle. Sometimes, ſays he, this Membrane muſt be cut all round in order to bring it intirely out, if it is thickened and wrinkled, for fear it ſhould obſtruct the Pupil; when it

is ſo cut, it may be extracted with a pair of Pincers: after having cut the *Capſula* in this manner, the Spatula may be introduced betwixt the Iris and *Chryſtalline* to detach it from its Bed, and facilitate its Exit.

THE *Cornea* is then to be put in its proper ſituation again, and at the ſame time the inferior part of the Globe of the Eye muſt be gently preſſed, by which means the *Chriſtalline* may be ſqueez'd out without breaking the poſterior part of the *Capſula*, which keeps the vitreous Humour in its proper Place. M. *Daviel* ſays, he thinks there are no inconveniencies attending this Method of Operating, but what may with care be avoided; and it has this great Advantage over others, that the *Cataract* can never riſe again.

The Manner of performing the Operation of extracting the Cataract *with one Inſtrument only, by Mr.* WARNER.

THE Manner in which I perform the Operation is this: The Patient being ſeated in a Chair with a low back, I ſeat myſelf exactly oppoſite to him in another Chair of a convenient height, and in a Room where the Light is not too great, that the Pupil may have the power of dilating itſelf as much as poſſible to facilitate the Expulſion of the *Cataract*. This being done, an Aſſiſtant ſtands behind the Patient, who places his right Hand under the Chin, after having firſt covered the right Eye with an Handkerchief, and pulling his Head back againſt his Breaſt, he directs his Face upwards to prevent the diſcharge of the vitreous Humour, and to keep him ſteady. The ſame Aſſiſtant lifts up the ſuperior Eye-lid with the fore and middle Finger of his left Hand, taking great care not to preſs the Globe of the Eye above. I then depreſs the inferior Eye-lid with the fore and

middle Finger of my left Hand; at the ſame time taking ~~notice~~ care not to preſs the Globe of the Eye below.

THE Patient is directed to keep his Eye as ſteady as poſſible, looking with it ſtraight forwards, and a little upwards. I then plunge the Knife ſuddenly into the Globe of the Eye on its external part near the Circumference of the *Cornea*, and oppoſite to the Center of the Pupil, directing it forwards betwixt the Iris and the *Cornea*, till its Point comes out on the oppoſite ſide if poſſible; by this means, the *Cornea* becomes at leaſt half divided in its Circumference. The Knife being kept in the Eye the whole time, muſt be gently drawn backwards, and its Point carefully introduced through the Pupil, with which the *Capſula* of the *Chryſtalline* Humour is divided. Immediately after the Diviſion of this Membrane, I preſs the Globe of the Eye gently upwards with the fore and middle Finger, which have been hitherto kept upon the inferior Eye-lid, and by this means endeavour to ſqueeze out the *Chryſtalline* Humour through the Wound; the Knife being ſtill retained in the anterior Chamber of the Eye, the *Cornea* becomes a little elevated, and

the

the Exit of the *Cataract* is on this account facilitated.

I LOOK upon the Diviſion of the *Capſula* of the *Cataract* to be of great conſequence in many Inſtances, ſince this Membrane becomes ſometimes ſo tough and thickened, as to make a very conſiderable reſiſtance to the Preſſure; in which caſe, a great part, or the whole of the vitreous Humour is diſcharg'd, and the *Cataract* ſometimes remains behind, which will not admit of a ſecond Attempt to an Operation.

BUT it ſometimes happens, that the *Cataract* immediately follows the Diviſion of the *Cornea*, without making any external Preſſure upon the Globe, owing probably to the involuntary Contraction of the Muſcles of the Globe, which draw the Eye inwards, and compreſs it on every ſide.

THIS Operation cannot be properly performed but upon ſuch as have the power of keeping their Eyes from rolling about; and therefore it muſt not be undertaken in thoſe Subjects who were born with *Cataracts*, as their Eyes are always in Motion, where the Diſeaſe is not complicated with the *Gutta Serena*.

THE

THE *Speculum Oculi* muſt never be made uſe of in this Operation, ſince the Compreſſion from the Inſtrument will be found to be ſo great as to ſqueeze out the whole of the vitreous Humour, even before the Operator can make the Wound ſufficiently large through the *Cornea*, for the Expulſion of the *Chryſtalline* Humour.

IT very often happens that a part of the vitreous Humour is diſcharged in the moſt ſucceſsful Operation; but I have ſeldom known it happen otherwiſe in ſuch Caſes than to be ſoon reſtor'd, and the Eye to reſume its natural Figure, by being repleniſhed either with a freſh ſupply of the vitreous or aqueous Humour, or both.

THE Inflammation ſucceeding this Operation is generally very conſiderable; but neither that, nor the Operation, ſeems to be very painful. It is frequently ſeveral Weeks after the Operation, before the Inflammation of the Eye is diſperſed.

DURING this State it ſhould be treated with emollient Fomentations, and cooling Ointments, and the Patient's Body kept open.

IF the *Cornea* of the right Eye is to be divided, the Operator places himſelf in the ſame ſituation

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Fig. 1.



Fig. 2.

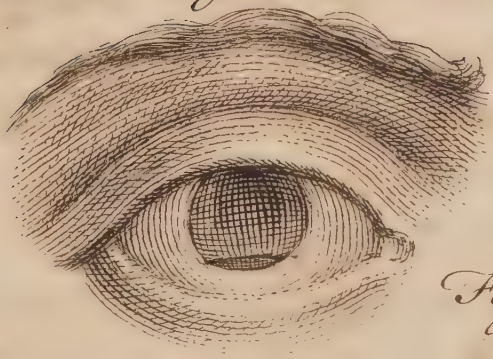


Fig. 3.

Fig. 1. The Eye with the Instrument passed thrô ye Cornea.

Fig. 2. The Eye with the Wound on ye inferior part of ye Cornea.

Fig. 3. The Cataract, or diseased Crystalline Humour.

ſituation as has been already directed, ſuppoſing he has a power of uſing his left Hand to advantage; but if he has not a ſufficient command of his left Hand, he muſt ſtand behind the Patient, and, after having lifted up the ſuperior Eye-lid, uſe his right Hand; his Aſſiſtant at the ſame time ſtanding before the Patient, and holding down the under Eye-lid with the ſame precautions already given.

WHEN the *Cornea* is divided, and the *Capſula* of the *Cataract* wounded, the Aſſiſtant muſt preſs gently upon the inferior part of the Globe of the Eye, and ſqueeze out the *Cataract*.

THE Knife to be made uſe of in this caſe is exactly like that which is uſed in the performance of the Operation of cutting the Iris, only that it muſt be about three times as broad and about twice as thick.

Remarks

Remarks upon the different Operations of Couching, and of opening the Cornea, *and extracting the diſeaſed* Chryſtalline *Humour, or* Cataract.

UPON the whole I muſt profeſs from the ſtrict Attention I have payed to the Succeſs ariſing from the Method of depreſſing the *Cataract* with the couching Needle, and to the Succeſs accruing from the Method of opening the *Cornea*, and extracting the *Cataract*, my Opinion is clearly in favour of the former Operation; unleſs the *Chryſtalline* ſhould have paſſed through the Pupil and be lodged in the anterior Chamber of the Eye. There are certainly many inconveniences, to which the practice of opening the *Cornea*, *&c.* is liable, that do not happen to Couching: The moſt remarkable of which are theſe;

IN opening the *Cornea*, the Patient ſeldom has Reſolution enough to keep the Eye ſufficiently ſteady to admit of the Inciſion being made large enough through that Coat without wounding the Iris: Under which Circumſtances, the Opera-

Operator is greatly embarraſſed: And even, when the Inciſion through the *Cornea* is made ſufficiently large without injuring the Iris, it is often with great Difficulty that the *Cataract* is extracted: Nay ſometimes the Extraction of it is impracticable; owing principally to the ſmallneſs of the Pupil, (if the Operation be performed on a bright Day, and in a light Place, which is improper.) When that unhappily proves to be the Caſe, the Operation is not only unſucceſsful, but the Eye generally ſuffers ſo much from the Attempt, as renders any farther chance for Relief improbable.

SOMETIMES the Globe of the Eye ſuppurates and waſtes in conſequence of the ſubſequent Inflammation, which is almoſt always very great and of long continuance.

WHEN the Operation proves the moſt ſucceſsful, ſo far as relates to the Size of the Aperture of the *Cornea*, and expulſion of the *Cataract*, the Cicatrix of the *Cornea*, conſequent upon the healing of the Inciſion, is ſometimes oppoſite to the inferior Portion of the Pupil, (occaſioned by the Wound not being made low enough) by which means, the Rays of Light are rendered incapable of paſſing in a direct Courſe to the bottom of the Eye. Sometimes

times the Light is almoſt totally obſtructed in its paſſage from the general Thickneſs and Cloudineſs of the *Cornea*, ariſing from the greatneſs of the Inflammation, and the length of time it has continued. Sometimes the Pupil loſes its circular form, and at other times it becomes totally contracted from the Violence done to the *Tunica Iris*: The laſt Circumſtance of a Contraction of the Pupils I ſaw happen in both Eyes of a Woman which underwent this Operation.

FOR theſe ſeveral Reaſons, as well as becauſe the Operation is more difficultly executed than that of Couching, (even when the Eye is preſerved in the moſt immoveable poſition) I am inclined to believe that the Operation of Couching will ſtill prevail.

FROM the reſult of my own Experience, I am convinced the Operation of Couching is attended with greater ſucceſs than the other Method of practice; and therefore I recommend it as the moſt adviſeable Operation of the two.

IN Couching, the only Objections I know of to the Operation are theſe;

THE *Cataract* is liable to riſe again after it has been depreſſed; and ſometimes it is impoſſible to effect the Depreſſion of it at the

firſt

firſt Attempt, without uſing too much Violence in the Operation.

AGAIN, the Inſtrument in Couching is paſſed through all the Coats that compoſe the Globe of the Eye, except the *Cornea*; to wit, the *Tunica Conjunctiva*, *Tunica Albuginea*, *Tunica Sclerotica*, *Tunica Choroides*, and *Tunica Retina*, from piercing the laſt of which thoſe Head-aches and ſhooting Pains in the Globe of the Eye, which are ſometimes known to follow this Operation, may reaſonably be ſuppoſed principally to proceed; whereas in the other Operation, the *Tunica Cornea*, and the thin Expanſion it receives from the *Tunica Conjunctiva*, are the only Parts concerned in the Compoſition of the Globe of the Eye that are, or at leaſt ought to be, wounded, except the *Aranea* or *Capſula* of the *Chryſtalline* Humour: But as many Patients that are couched, although they undergo this Operation two or three ſeveral times, have no ſubſequent Pain in the Head, and very little Inflammation of the Eye; theſe Symptoms muſt not be expected as certain Conſequences of the Operation; and when they do happen, it muſt be remembered that they are in general only temporary Afflictions.

As

As to the inconvenience of the *Cataract* riſing again, though this may truly be looked upon as an unlucky Circumſtance, and ſuch an Incident as one would wiſh could be provided againſt; yet there is this conſolation attending it, that the Operation may very ſafely be repeated, and with a good proſpect of Succeſs; unleſs ſome uncommon Phœnomenon ſhould occur to forbid it: And notwithſtanding it ſome times happens that the *Cataract* cannot be depreſſed with the Needle in the Operation; it muſt not be concluded from thence that the Operation will certainly be unſucceſsful: For it does ſome times turn out, contrary to expectation, that the *Cataract* gradually ſubſides in conſequence of the Violence done to the *Capſula* of the *Chryſtalline* Humour and its nutrient Veſſels, as well as on account of its removal from its bed in the Vitreous Humour; and the Patient is happily reſtored to his Sight: An inſtance of which has occurred to me in a Patient whoſe Eyes I lately couched. In the Operations neither of the *Cataracts* were depreſſed, but only looſened, by being moved about with the Needle, and their Veſſels deſtroyed thereby: However, in ſome time after the Operations, the

the *Cataracts* began to ſubſide, and at length by their falling down below the Pūpils, the Patient was reſtored to Sight: This inſtance, I own, is an uncommon one; but it is far from being ſingular: And I doubt not but ſomewhat of the like kind muſt have happened to Men of experience in this Operation; and that ſuch an Event is not only poſſible, but probable, we may learn from its having been obſerved that *Cataracts* in the Eyes of Men, as well as in Animals, do ſometimes ſubſide of themſelves without any Art; owing without doubt to a natural Decay, or Rupture of the Veſſels and *Capſula* of the *Chryſtalline* Humour.

IF the firſt Operation that was performed upon theſe Eyes had not proved ſucceſsful, it is very probable a ſecond might have been ſo: Which would have been adviſeable for the Patient to have ſubmitted to; as a Repetition of the Operation is reaſonable, and frequently practiſed with Succeſs, when the Eye is free from Inflammation, and the *Cataract* poſſeſſes its original Situation: Unleſs, as has already been obſerved, there ſhould be any particular Reaſon to object to it.

CASE XI.

Of an extraordinary Tumour in the right Orbit of the Eye.

R. S. aged 42, had a large ſchirrous Tumour formed in the ſuperior part of the Orbit, which had been growing ſeven Years, and had at length acquired ſo great a Size as to puſh the Globe of the Eye conſiderably downwards, and out of its Socket. It appeared at firſt in the ſhape of a ſmall moveable Swelling, which took its riſe under the upper Eye-lid.

THE Tumour increaſed gradually, and without Pain for the four firſt Years. For the three laſt Years it became very troubleſome, and full of Pain, which extended to the whole of that ſide of the Head.

THE Sight of the Eye became impaired in proportion to the Increaſe of the Tumour.

ON the 30th of *March* 1749, he was admitted in the Hoſpital, and in ten Days afterwards it was cut out.

THE Tumour was found to extend itſelf from the outer Corner to within a very little

of

of the inner Corner of the Eye, and quite to the bottom of the Socket. The Operation was difficult, and attended with conſiderable Pain, which continued for ſeveral Days; after which, he became perfectly eaſy. During the Cure, there was a large Diſcharge from the Wound; in about eight Weeks the Wound was healed, and he continued perfectly eaſy. His Sight was much the ſame as before the Operation.

REMARK.

WHEN the Eye is thruſt out of the Orbit by a ſubjacent Tumour, the Tumour frequently takes its riſe from the Brain itſelf; which Circumſtance renders the Operation impracticable. Sometimes the Tumour, though it ariſes within the Orbit, is of a cancerous nature, and affecting all the Contents of the Orbit, renders the abſolute Removal of it impoſſible. Theſe Circumſtances have brought the Operation into Diſrepute. But there may be a Species of ſchirrhous Tumour within the Orbit, where the Operation may be attended with Succeſs.

NOTWITHSTANDING, that after the Cure in the preceding Inſtance, the Eye remained

in the Poſition it was before the Operation, and with the ſame Imperfection of Sight (from probably the Compreſſion which the optic Nerve had ſuſtained) yet the Patient being free from Pain, and in every other reſpect perfectly well, was ſufficiently recompenſed for the Pain of the Operation.

CHAP. V.

The Manner of performing the Operation.

THE Method I took for the performance of the Operation was this: I placed the Patient in a Chair with the back part of his Head leaning upon a Pillow, which was laid upon an adjoining Table of about three Feet high. In this Situation his Head was firmly ſupported by means of a proper Aſſiſtant, whilſt I proceeded to make an Inciſion upon the Tumour with a round pointed Knife. The firſt Inciſion was ſo contrived as to extend a little beyond each extremity of the Swelling, and to incline with its Horns towards the Globe of the Eye.

IMMEDIATELY oppoſite to the firſt Inciſion I made a ſecond, equally long, and in ſuch a Direction

Direction that its horned Extremities might correſpond and join with thoſe of the firſt Inciſion.

THE Inciſions were at once made through the Integuments, and that portion of the Orbicular Muſcle which forms a part of the upper Eye-lid. When I had thus far proceeded, I carefully diſſected out the Tumour from its bottom with the piece of Integuments, and Orbicular Muſcle of the Eye-lid annexed to it.

THERE was no Application required for reſtraining the Bleeding of the Wound, but Lint and Flower aſſiſted by moderate preſſure.

IN this, and every other Operation, where the Knife is made uſe of, it is neceſſary to have an Aſſiſtant at hand with a Baſon of warm Water, and a bit of ſoft Spunge, to wipe away the Blood occaſionally, that the Operator may not be embarraſſed in his Purſuits.

CASE XII.

Of an uncommon Tumour upon the Roof of the Mouth.

A. B. aged 40, had a Tumour formed upon the Roof of his Mouth, which at length had arrived to ſo great a Size, as to prevent his feeding upon any thing but Liquids. The Tumour had been growing about ſeven Years, and at length poſſeſſed the whole Roof of the Mouth. He came to *London* in *June* 1747, and was admitted into the Hoſpital under my Care. In conſideration of the foregoing Circumſtances, and the Improbability of procuring Relief by any other Methods, it was recommended to him to have it cut out; but at the ſame time the Operation was judged hazardous from the *Hæmorrhage* that might probably ariſe from it, and the Difficulty of ſtopping it, as had happened ſometime ago in a ſimilar Caſe; but as no other Methods could be thought on for his Relief, I undertook the Operation, and performed it in the following manner.

THE

THE Patient being properly ſeated, and ſecured, a piece of Wood was placed betwixt the Teeth on the left ſide of his Mouth; and a curved Knife, ſuch as Gardeners make uſe of in pruning Trees, was conveyed to the poſterior part of the Tumour, with which I effectually ſeparated the Tumour from its Baſis. The *Hæmorrhage* that enſued upon the Operation was ſo trifling, as to require no pains in ſtopping it. But in a few Hours afterwards, a conſiderable Artery burſt out, which bled freely, and could not be reſtrained by Preſſure, or other gentle means. Seeing this, and conſidering the Impoſſibility of uſing the Needle and Ligature to advantage, I had recourſe to the actual Cautery, which anſwered the End, and the Patient was perfectly cured in three Weeks, without farther trouble.

UPON opening the Tumour it was found to conſiſt of a firm cartilaginous Subſtance mixed with long boney Particles.

REMARK.

THE actual Cautery is hardly ever made uſe of in *England* by Surgeons of the preſent Age, to ſtop bleedings. The crooked Needle and Ligature are for many Reaſons juſtly preferr'd

to it. But nevertheleſs, there are ſome Inſtances where the actual Cautery will be found neceſſary, as the preceding Caſe undoubtedly proved.

CASE XIII.

Of two Operations performed upon the Tonſils.

THE Tonſils, vulgarly called the Almonds of the Ears, are two remarkable Glands of the *Salviary* kind, of a reddiſh Colour, ſituated on each ſide of the Baſis of the Tongue. The Tonſils are ſubject to a variety of Diſeaſes proceeding from a variety of Cauſes, which Diſeaſes, according to their different Circumſtances, are known to require different Methods of treatment. An Inflammation of theſe parts ariſing from ſlight Fevers is a very common Complaint; in conſequence of which it ſometimes happens that one or both of theſe Glands become ſo enlarged (notwithſtanding the Attempts to relieve the Patient by repeated Bleedings, Purgings, Clyſters, and Bliſters, aſſiſted with the moſt powerful Gargariſms) as to bring on a difficulty of Breathing,

Breathing, frequent Wretchings, and inability of Swallowing, even the thinneſt Liquids, but with the greateſt Difficulty; in ſuch Inſtances I have oftentimes found the practice of Scarifying the Tumour or Tumours has given almoſt immediate Relief, by evacuating a Quantity of Matter which has been deeply lodged in their Subſtances; and at other times, when no Impoſthumation has yet been formed, (though the Swelling has been very great and alarming) the Inciſions, by dividing the inveſting Membrane, and diſcharging a Quantity of Blood from the Bodies of the Tonſils, have gradually removed the Tenſion, and diminiſhed the Sizes of theſe enlarged Bodies to the great eaſe and ſafety of the Patient, who was before in continual Apprehenſions, and ſome Danger of Suffocation. The manner of performing this Operation is, by gently preſſing down the Tongue with a Spatula, or the handle of a common ſilver Table-ſpoon held in the left Hand, whilſt with the right Hand ſuch an Inſtrument as is generally made uſe of for lancing the Gums of Children may be conveyed down to the diſeaſed Part, with which two or three deep Inciſions of at leaſt the third part of an Inch long muſt be made into the

ſub-

ſubſtance of each Swelling, (provided both Tonſils be diſeaſed.) This Operation is not attended with much Pain or Difficulty if the Inſtrument be very ſharp: The benefit accruing from it is not merely a temporal one in all Caſes, for it ſometimes happens (unleſs I am greatly miſtaken) that the Events of this Method are ſo ſucceſsful as to prevent a return of the Swelling, owing probably to the entire Diviſions of the inveſting Membrane, and to the firm Cicatrices which are formed in the Body of the Gland, or Glands, conſequent upon healing of the Inciſions. I am led into this Opinion from having known ſome Subjects who were alarmed and harraſſed with theſe Complaints, ſometimes once, ſometimes twice a Year, ariſing from Colds and Fevers before I had treated them in this manner; but ſince they have undergone this Operation they have not, as before, been liable to a return of theſe troubleſome Swellings, although their Fevers have occurred as uſual. I once ſaw an Inſtance of a Tonſil ſo exceſſively enlarged as to occupy almoſt the whole of the roof of the Mouth; and to reſiſt every Attempt to its removal but Exciſion, of which, on account of the very extraordinary Circumſtances attending

this

this Caſe, I am induced to give a minute detail in the following Words.

IN the middle of *January*, in the Year 1757, *J. M.* aged 44 Years, was attacked with a Cold and Fever, accompanied with a Complaint in his Throat; this Symptom increaſed till the 31ſt of the following Month of *March*, when he was put under my Care: The Circumſtances attending his Diſorder were theſe, He was incapable of taking any kind of Nouriſhment but ſuch as was quite liquid; he could not ſpeak ſo as to make himſelf underſtood but with great difficulty; and he had been afflicted for the three or four laſt Weeks with ſevere Pains in his right Ear, and a deafneſs, (owing I ſuppoſe to the Preſſure which was made upon the neighbouring extremities of the *Euſtachian* Tubes;) upon looking into his Mouth there appeared a Tumour of an enormous ſize; its ſhape reſembled that of an Egg, with its Baſis looking towards the *Æſophagus*. The ſwelling extended itſelf ſo far forwards as to approach very nearly to the Roots of the *Dentes Inciſoi*, and *Dentes Canini* of the upper Jaw. On the right ſide it extended itſelf ſo far as to come in contact with all the *Dentes Molares* of the ſame ſide

of

of the Jaw, to which ſeveral parts, as well as to almoſt the whole of the Roof of the Mouth, it firmly adhered: The poſterior part of the Tumour extended ſo far down the *Æſophagus* as to render it impracticable for me to reach beyond its Limits with my Finger. The Surface of the Swelling was perfectly ſmooth and ſhining, and was uniformly covered with the ſame thin Membrane (*Epithelion*) that naturally inveſts the Mouth. From the ſize of the Tumour the *Uvula* was ſo much removed from its original Situation, as to be brought conſiderably forwards, and was ſo far puſhed to the left ſide of the upper Jaw as to preſs forcibly againſt the two laſt of the *Dentes Molares* on that ſide: From the ſize of the Swelling, as well as from the preſſure which the neighbouring Parts had ſuſtained, there was no diſcovery to be made of the *Velum pendulum Palati*. At the beginning of the Diſeaſe, the Patient had been treated in the Methods generally directed for the removal of inflamed ſore Throats proceeding from *Plethora*; that is, he had been let blood, been purged and bliſtered, but without ſucceſs, ſeeing that theſe Endeavours had not only proved unequal to the Relief of his Diſorder, but on the contrary,

that

that it had gradually encreaſed, and ſtill continued to do ſo, I thought it adviſeable to puncture the Tumour, which I did in ſeveral places with the point of a Lancet, on preſumption that it might poſſibly contain a Fluid, or if it did not contain a Fluid (which I rather judged to be the caſe, and as the Experiment proved) I imagin'd that the Veſſels might poſſibly be unloaded from the diſcharge of Blood conſequent upon theſe Punctures, or at leaſt that the Tenſion might be ſo far removed as to give time for the trial of emollient Fomentations, ſuch as the Steam of warm Milk and Water conveyed to the Part by the help of a Funnel, which was for ſome time uſed, but ineffectually, the Tumour encreaſing with an encreaſe of the Symptoms: For theſe Reaſons I determined upon cutting it out, which, though I conſidered as a very difficult, tedious, and troubleſome Operation to effect, was nevertheleſs executed in the following manner.

THE Patient being placed in a ſeat of a convenient height, and his Head ſupported in as ſteady a poſture as poſſible, I fixed a bit of Wood betwixt the upper and lower Jaw on the left ſide, which by an Aſſiſtant was occaſionally retained in that ſituation, during the

far-

farther proceſſes of the Operation: This being effected, I made a circular Inciſion with a common round pointed diſſecting Knife, in ſuch a manner as to ſeparate the Tumour from the lateral and anterior Parts of the Roof of the Mouth; after which I endeavoured at the Extirpation of it from its Baſis with a Knife that had a Blade made in a peculiar form: I found this Inſtrument extremely uſeful on the Occaſion, and as it may probably be thought ſo in future Caſes of the like nature, I have annexed a Print of it to this Chapter; by which means the Reader will have a clearer Idea of it than he could have had from any verbal Deſcription I am capable of giving him. The manner in which I uſed this Knife was by introducing the Edge of the Blade, as far as I poſſibly could, beyond the Extent of the Swelling on its right ſide; then, by bringing it forwards, I directed it carefully betwixt the Extent of the Tumour on the ſame ſide and the *Uvula*; in this Attempt I was ſucceſsful enough to remove the greateſt part of the Swelling; when that was effected the Patient was obliged ſeveral times to cleanſe away the Blood which diſcharged very freely, but by the help of equal parts of cold Water and Vinegar,

Vinegar, the *Hæmorrhage* was ſoon ſtopped. I then proceeded to a removal of the remaining Part of the Tumour, which I accompliſhed with the ſame Knife, aſſiſted with an Hook. After this Attempt the Wound bled freely, but was reſtrained in the ſame manner as before.

FOR ſeven or eight Days after the Operation there were ſeveral pieces of Sloughs which digeſted off by the uſe of deterſive Gargariſms, at the end of which time the Patient began to feed upon Solids. The Day after the Operation his Reſpiration became free, and at the end of three Weeks he had almoſt recovered his uſual Tone of Voice. No Applications were made to the Wound after the Day of the Operation but a Gargariſm of Barley-Water, made pretty ſweet with Honey of Roſes, to which was added an eighth part of Tincture of Myrrh. Before I undertook the Operation there was no determining what gave riſe to the Tumour, but after it was cut out it ſeemed to be nothing more than the right Tonſil which had encreaſed to this extraordinary ſize. The Body of the Tumour was ſolid, and on its Surface it exactly reſembled an inflamed Tonſil, but upon inſpecting its internal Part the

the Texture of it appeared to be more looſe and ſpungy than thoſe Bodies naturally are. There was not the leaſt appearance of a Schirrus in any part of it, as is ſometimes known to be the caſe in Diſeaſes of theſe Glands, which under ſome Circumſtances do require, and ſafely admit of extirpation by Ligature. About ſix Months ago I was conſulted by a Patient who had long laboured under a difficulty of Swallowing, and a ſlight Deafneſs, attended with a croaking Tone of Voice; upon looking into his Throat I diſcovered that the right Tonſil was enlarged to the ſize of a Pigeon's Egg; it was unequal in its Surface, hard to the Touch, and appeared in Colour and Form like a white conglomerate Gland. I adviſed the Extirpation of the Tumour, which was conſented to, and I performed the Operation in the following manner. The Patient being ſeated in a Chair of a proper height, with his Mouth wide open, I paſſed an Eye Probe, with a Ligature fixed to its broad end, down the Throat, and directed it beyond the Gland; the end of the Probe to which the Ligature was fixed was bent in the form of a Semicircle; after the Probe had been paſſed beyond the Baſis of the Tumour it was pulled gently forwards on the oppoſite

oppoſite ſide of the Gland quite out of the Mouth. The Probe was then cut away, and the Ligature being firſt tied upon the Baſis of the Tumour, with the Surgeons Knot, was afterwards farther ſecured by tying upon it a ſecond and third time in a common manner. The Ligature was the thickneſs of a common Tent Probe, compoſed of Shoemaker's Thread twiſted tightly together, and well waxed; the Tumour dropped off in eight Days, and the Patient got rid of his ſeveral Complaints. But in the Caſe of *J. M.* p. 107, the Swelling was ſo differently circumſtanced as rendered it impracticable to execute its Removal by any other means than by Exciſion, which Operation, though it might reaſonably be apprehended to be attended with ſome hazard on account of the *Hæmorrhage* that might probably enſue, was nevertheleſs moſt certainly adviſeable from the preſſing Circumſtances which attended the Caſe. It may be obſerved that the difficulty of Breathing in this Caſe proceeded from two Cauſes; firſt from the ſize of the Tumour, which was ſo large as to poſſeſs almoſt the whole of the *Pharynx* which is ſituated immediately above, and leads to the *Rimula* of the *Larynx* and the *Epiglottis*: Secondly, from the

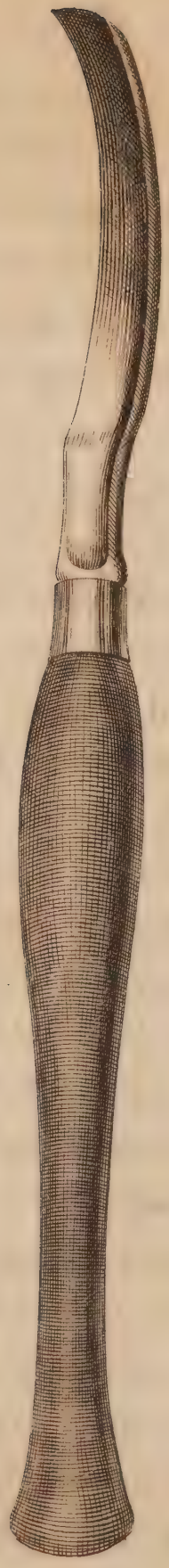
great degree of preſſure which it made upon the *Velum Pendulum Palati*, which neceſſarily cut off thoſe Communications that in a ſound ſtate ſubſiſted betwixt the Noſtrils and the *Aſpera Arteria*, and which ſerve to convey the Air into the Lungs in the Acts of Inſpiration.

REMARK.

IF aſtringent Waſhes had not proved equal to the ſuppreſſion of the *Hæmorrhage* ariſing from the divided Veſſels I had prepared for that purpoſe the actual Cautery, which muſt have been made uſe of. This I have in the former Caſe of *A. B.* adviſed for the like Operation if neceſſary; but where the uſe of the actual Cautery is not found to be abſolutely neceſſary, it ſhould be diſcarded in favour of ſuch Methods as are known to be leſs painful, as well as leſs terrible to the Patient. This Operation I have given ſo particular an Account of ſucceeded to my Deſire, ſo far as related to the removal of the Tumour, and the preſent Relief of the Patient; but in a few Months afterwards he was attacked with an Aſthma and a gradual Decay, for which he went into the Country for the benefit

Pl. 3.

p. 114.



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J. Heyde sc.

nefit of the Air, but with no great proſpect of Recovery. As I had not an Opportunity of hearing of him ſince he left me, I am uncertain what was the Event of his Illneſs; but it is moſt probable he did not live many Months, ſince there was too great reaſon to believe his Lungs were attacked with the ſame kind of Diſorder. Of this I ſhould certainly have ſatisfied myſelf had I been acquainted with his Death, and could have gained permiſſion to inſpect the Body.

CASE XIV.

Of an encyſted Tumour ſituated upon the fore-part of the Neck, ſucceſsfully extirpated.

A. *B.* a Girl of about 14 Years of Age, had a Tumour formed upon the fore-part of the Neck, immediately beneath, and on the left ſide of the Thyroid Cartilage; the Tumour had been growing about four Years, and was at length become ſo troubleſome from its Situation and Size, as to occaſion a Difficulty in breathing, and a total Inability of ſwallowing any thing but Liquids. It was of

the encyſted kind, and compoſed of a quantity of Fluid. Its Situation was betwixt the *Aſpera Arteria* and the *Æſophagus*, as appeared in the Operation. It was cut out, and the Patient did well in a few Weeks. But on account of its deep Situation, only a part of the Cyſt was diſſected out, the reſt of it came away in a few Days afterwards with the Dreſſings. The Patient, ſince the Operation, has been free from any Inconvenience in breathing or ſwallowing; and is otherwiſe perfectly well.

REMARK.

THERE is a Species of Tumour ſometimes formed betwixt the *Aſpera Arteria* and the *Æſophagus*, which from its ſchirrous Nature, extent of its Baſis, and deep Situation, renders all Attempts to Extirpation unadviſeable. An Inſtance of which *Tulpius* has given us in the 44th Chapter of his firſt Book of *Obſervations*.

A CASE ſimilar to that, I was conſulted about ſome time ago, in a Man 55 Years of Age. The Tumour increaſed ſo faſt, as to deſtroy him in a few Months. But where the Tumour is differently circumſtanced, both as to its Nature and Contents, the Operation is adviſeable

viſeable, as the preceding Inſtance undoubtedly proves. The Succeſs of which ſufficiently warranted the Undertaking.

FOR the manner of Operating ſee Caſe XI, page 100. This Method differed in nothing materially from the Method that is there directed to be purſued, except that a part only of the Cyſt was cut away for the Reaſons already given in this Caſe.

CASE XV.

Of a Steatoma, *poſſeſſing the greateſt part of the Neck on one ſide, ſucceſsfully extirpated.*

S. G. aged 45, had a large Tumour on the right ſide of her Neck, which had been growing for twenty Years. It was much larger at its Baſis than at any other Part, and extended from the right maſtoid Proceſs to the Clavicle on the ſame ſide; and from all the *Vertebræ* of the Neck to the maſtoid Muſcle, under which a part of the Tumour was ſituated. The Tumour was not attended with Pain, but had of late become ſo inſupportable from its ſize, as to render her incapable of ſervice. Under theſe Circumſtances ſhe applied to me. I ſaw no Objection to the Operation, and accordingly

adviſed it, which was complied with. There was no extraordinary Circumſtance or Difficulty attending the Operation, but that it required ſome Care and Nicety in diſſecting out that part of the Tumour which lay under the maſtoid Muſcle upon the internal jugular Vein, and carotid Artery. There was but one Veſſel which required tying, (a Circumſtance very uncommon in a Swelling of this ſize, which weighed near four Pounds.)

IN the Operation, all that part of the *Trapezius* Muſcle covering the back part of the Neck, was laid bare. The whole of the *Platyſma Myoides* was taken away with the Tumour, and the *Coracohyoidæus* Muſcle appeared in view. After the Tumour was removed, and the *Hæmorrhage* ceaſed, I paſſed the Needle and Ligature twice through the Integuments, in a tranſverſe Direction, to prevent their Retraction; by which means I hoped the Cure might be haſtened. This ſeemed to have the deſired Effect, and the Wound was perfectly healed in ſix Weeks.

REMARK.

IN all ſteatomatous Tumours it is abſolutely neceſſary to remove the whole of the Swelling if poſſible; and not to truſt to the effects of

Dreſſings

Dreſſings for the Removal of any part that is left behind.

I HAVE known an Inſtance, where, by truſting to this Method, it has been found neceſſary to repeat the Operation, which ſeldom fails to bring a Reflection upon the Surgeon.

I ONCE knew an Inſtance of this kind in the Caſe of a *Steatoma*, which grew in the inner Corner of the Eye. Its Baſis was ſituated upon the *Lachrymal Sac*; which it was apprehended there was a Danger of wounding with the Knife. On this account, a very ſmall ſhare of the Tumour was left behind. This in a few Months afterwards, arrived to the ſize of the former Swelling, and required a Repetition of the Operation, which was then effectually executed, as I had an Opportunity of informing myſelf ſome Years afterwards.

FOR the manner of Operating ſee the Caſe of *R. S.* p. 100, in which the performance of the Operation differed in no other reſpect than in the ſituation of the Patient and ſize of the Wound. The Patient was ſeated in a Chair, with her Head and Neck held as upright and as ſteady as poſſible.

CASE XVI.

Of an incurable Diſeaſe of the Æſophagus.

I HAVE already given an Inſtance of a difficulty in Swallowing, which aroſe from a preſſure made upon the *Æſophagus*, by a conſiderable Tumour that appeared externally upon the Throat, and obſerved that the Patient was cured in conſequence of its Extirpation. I took notice likewiſe, that ſome of theſe Tumours ariſing in the neighbouring Parts, are not to be relieved by Operation, on account of the greatneſs of their Extent, *&c.*

BESIDES the incurable Tumours to which theſe Parts are liable, there is another Species of Diſeaſe, which ſeems equally dreadful in its Conſequences, and incapable of being relieved by Phyſic or Surgery. This Diſeaſe is but too common, though not, to my knowledge, as yet deſcribed by Writers.

IN *July*, 1752, *F. L.* a young Woman aged 25, was admitted into *Guy*'s Hoſpital, and put under the Care of the Phyſician, on account

account of a Difficulty in Swallowing, with which ſhe had been afflicted for ſome Months. She had made uſe of all the Means that could be thought of in Phyſic for her Relief, but to no purpoſe.

THERE was nothing appeared outwardly that could lead to the Diſcovery of the Malady, but ſhe complained of a particular tightneſs in Swallowing, juſt below the back part of the *cricoid Cartilage*. The Part affected was ſituated too low to be looked into, but it was eaſily diſcovered by conveying down the Throat a bit of Spunge faſtened upon Whalebone, and dipt in Sweet-Oil; which, though very ſmall, could not be made to paſs beyond it. She at lenght became incapable of taking any Nouriſhment, and died ſoon after.

I OPENED the Neck after her Death, and carefully examined whether I could diſcover any Swelling behind the *Æſophagus*, or betwixt that and the *Aſpera Arteria*; but there was nothing of this nature that could be ſeen.

UPON taking out the *Æſophagus*, it appeared conſiderably thicken'd about an Inch in length, juſt beneath the *cricoid Cartilage*.

UPON opening the *Æſophagus* length-ways, its Coats appeared ſo contracted in the diſeaſed

Part

Part as to be only juſt capable of admitting a Paſſage to a common Probe. The internal Coat of the *Æſophagus* was in part ulcerated, and beſmeared with Matter.

THE *Larynx*, *Aſpera Arteria*, *&c.* were ſound and well.

REMARK.

I AM afraid this remarkable Caſe is one, amongſt the many in Phyſic and Surgery, that could not poſſibly have been prevented, or even relieved, if its Nature had been originally known; and that this Obſervation only tends to prove, what muſt unavoidably be the Fate of other Patients in Diſeaſes of the like Nature.

HOWEVER, as it is always a Satisfaction to the Surgeon, and implies Judgment in him to be able to prognoſticate with ſome Degree of certainty, what may probably be the Event of a future Diſeaſe of the like kind, and by this means prevent the adminiſtring of many uſeleſs Applications; for theſe Reaſons, this Obſervation probably may not be eſteemed altogether uſeleſs.

CASE XVII.

Of a Tumour ſituated upon the Forehead.

WHEN a Tumour, Excreſcence, or any preternatural Appearance is born with Children, the *Phænomenon* is generally diſtinguiſhed by the Name of a Mark, and attributed to ſome particular Deſire of the Mother during Pregnancy. There are ſome of theſe Excreſcences which are Tumours of the encyſted kind, and though at firſt they appear inconſiderable, yet it frequently happens that they do not remain long in that State, but by gradually increaſing, at length arrive to a conſiderable Size, proving troubleſome, and unſeemly from their Situation and Appearance: To prevent which, it is generally adviſeable to remove the Tumour when ſmall; by which means much Pain is prevented, and the Scar ariſing from the Wound becomes inconſiderable.

I WAS conſulted ſome Years ſince in the Caſe of a Child near a Year old, who was born with a Tumour of a Claret Colour upon the

the Face; it was at firſt no bigger than a common Pea, but before ſhe had arrived to that Age, the Tumour was increaſed to the Size of a Wallnut.

IT was judged adviſeable to have it cut out, which was done, and the Patient was cured in a little time.

FOR the manner of Operating, ſee the Caſe of *R. S.* p. 100.

CASE XVII.

Of a Tumour ſituated upon the Occiput.

IN the Year 1750, I was conſulted in the Caſe of a Child, near two Years old, who had a Tumour ſituated upon the *Os Occipitis*. The Tumour was as large as a Turkey's Egg, and appeared filled with a tranſparent Fluid. It aroſe from the back part of the Brain, which was eaſily diſcovered, by examining the Baſis of the Tumour. There was a Defect of almoſt the whole of the *Os Occipitis*. The Child was luſty and ſtrong, and had no viſible Diſeaſe in its Limbs. I adviſed nothing, but to defend the Tumour from external Acci-

dents;

dents; but the Parents being diſſatisfied with my Advice, conſulted another Surgeon, who adviſed the Extirpation of it, which he did, and the Child died in a few Days afterwards.

REMARK.

THIS is a Species of encyſted Tumour which is ſometimes ſeated upon the *Vertrebræ* of the Loins, ſometimes upon the *Vertrebræ* of the Back, and at other times upon thoſe of the Neck, *Os Sacrum*, or betwixt the Sutures of the Scull: All of which I had ſeen before. But never before now had I ever, ſeen an Inſtance of a Tumour of this kind upon the *Os Occipitis*. Theſe Tumours are to be diſtinguiſhed from all others by their Riſe, Situation, the Circumſtance of their being always born with the Subject, who is generally afflicted with a partial Palſy; and by their Contents, which are Fluid, and commonly tranſparent.

THEY take their riſe from the Brain, or ſpinal Marrow, where there is a viſible Defect of the Bone; and are contained within a Continuation of thoſe Membranes that naturally inveſt the *Cerebrum*, *Cerebellum* and *Medulla Spinalis*: (To wit, the *Dura Mater*, *Arachnoides*,

noides, and *Pia Mater*.) Which from the Circumſtance of the Spine being divided, or rather defective in its Proceſſes in that particular part, has given them the Name of *Spinæ Bifidæ*.

THE Practice of opening of theſe Tumours by Inciſion, or otherwiſe, or taking them off by Ligature, has always proved fatal; as hath been obſerved by *Tulpius*, in the 29th and 30th Chapters of the 3d Book of his *Obſervations*; and by *Ruyſch*, in his 34th, 35th, and 36th *Obſervations*. *Ruyſch* obſerves, that Children thus afflicted, ſeldom live to fifteen Months old: However I knew an Inſtance of a young Man of twenty Years old, who had one of theſe Tumours upon his Loins. He was healthy, but had laboured under a Paralyſis of his Legs from his Infancy; which was not ſo bad as to diſable him from walking.

FROM this Obſervation I would infer, that it is always unadviſeable to attempt the Extirpation, or opening of theſe Tumours; which piece of Advice has been peremptorily delivered by *Tulpius*, in the following Words. *Cave Sis improvidè unquam aperias, Quod tam facilè occidit hominem.* N. B. *Ruyſch* has given us a Caſe like this in his 52d *Obſervation*.

N. B. It is likewiſe in my Opinion equally unadviſeable to perform any Operation upon the Head in that ſpecies of diſeaſe known by the term, *Hydrocephalus:* Becauſe in all the Inſtances I have ſeen of this Diſeaſe, the Water has been contained in the Ventricles of the Brain, from whence the Malady ariſes, and by the Quantity of Water encreaſing, the Subſtance of the *Cerebrum* and *Cerebellum* has become gradually diſtended, and formed what may with propriety be termed the *Cyſt* of the Tumour.

NOT many Months ago I was conſulted in the Caſe of a Child of 13 Months old, whoſe Head was of an enormous ſize; I adviſed that nothing ſhould be done, but to defend the Part as much as could be from external Injuries. Soon after this, the Infant dyed, and I was deſired to open the diſeaſed Part, which I did in the preſence of ſeveral Gentlemen eminent in the Profeſſions of Anatomy and Surgery. Upon examining into the Head, the *Cerebrum* and *Cerebellum*, appeared uniformly diſtended; no one part of the Subſtance of the *Cerebrum* or *Cerebellum* was more than the ſixth part of an Inch thick. There was but a very ſmall appearance of Bone in the Head,

ſo

ſo that the *Pericranium* and *Dura Mater* were joined together almoſt in every Part; in conſequence of which, they might be ſaid to form one thick and ſtrong Bag conſiſting of different *Laminæ*, thinly interſperſed with incompleat bony Fibres.

THE Child was born a Month or ſix Weeks before the expected time; about four Weeks after the Birth of the Child, its Head began to ſwell, and continued to do ſo till the time of its Death. The Child appeared ſenſible, and merry amoſt to the laſt, and had a free Motion of its Arms, Legs and Eyes. It was not more drouſy than Children uſually are, till a few Days before its Death.

CASE XVIII.

Of an extraordinary Diſeaſe of the Humeral Artery.

WHEN a Bone, and its neighbouring Tendons and Ligaments are affected with Inflammation, Caries, *&c.* the Diſeaſe may ſometimes extend itſelf farther, ſo as to affect the neighbouring Veſſels; or it may probably happen, that the Diſeaſes of theſe particular

particular Parts may proceed from a previous affection of thoſe very neighbouring Veſſels, from which they receive their Nouriſhment and Growth.

C. D. was afflicted with a Caries of the Joint of the Elbow, which was attended with ſuch Circumſtances as rendered the Amputation of the Limb neceſſary: The Operation was performed at a proper Diſtance above the diſeaſed Part, and the Veſſels were taken up by the Needle and Ligatures.

IN a few Days after the Operation, the humeral Artery became ſo dilated above the Ligature as to endanger its burſting. Upon this Account, it was judged neceſſary to perform the Operation for the Aneuryſm, which was done, and the Veſſel was ſecured by Ligature above the upper Extremity of its diſtended Coats. After this Operation every thing went ſeemingly well on for ſome time, when ſuddenly the Artery appeared again dilated, and was in Danger of burſting above the ſecond Ligature. Theſe Circumſtances made it neceſſary to repeat the Operation for the Aneuryſm; from this time every thing went on ſucceſsfully, till the Stump was at the Point of being healed;

when, quite unexpectedly, the Artery appeared a third time diſeaſed in the ſame Manner as before; for which Reaſon a third Operation for the Aneuryſm was determined upon, and performed.

THE laſt Operation was near to the *Axilla*; the Patient continued well from this time without any Relapſe.

Query, Could the ſeveral Aneuryſms of the humeral Artery be attributed to the ſudden Check alone, which the Blood met with from its Extremity being ſecured by Ligature; or is it not more reaſonable to ſuppoſe, that the Coats of the Artery, nearly as high up as the *Axilla*, were originally diſeaſed and weakened? The latter ſeems the moſt reaſonable way of accounting for theſe ſucceſſive Returns of the Diſeaſe of the Veſſel; ſince it is found from Experience, that ſuch Accidents have been very rarely known to occur after Amputations, either of the Arm, or Thigh, where nearly the ſame Reſiſtance muſt be made to the Circulation in every Subject of an equal Age and Vigour, who has undergone the like Operation.

IF it ſhould be ſuppoſed that the ſeveral Dilatations of the Coats of the Veſſels aroſe merely from the Check in the Circulation; it will not be eaſy to account for the final Succeſs of this Operation; and eſpecially when we reflect, that the Force of the Blood is increaſed in proportion to its nearneſs to the Heart.

THE Nouriſhment of the Stump may be accounted for, from the Ramifications ariſing from the principal Trunk about the *Axilla*, which becoming dilated, in proportion to the Reſiſtance the Blood meets with in its paſſage through the humeral Artery, were found ſufficiently numerous and large enough to convey a proper ſupply to the Parts beneath.

THIS Species of Aneuryſm I have been deſcribing, is diſtinguiſhed by the Name of the true Aneuryſm, and is a Diſeaſe which frequently happens to the *Curvature* of the *Aorta*, extending ſometimes to both ſides the Neck, ſometimes producing vertigos, convulſive Fits, and admits of no other than a palliative Relief.

CASE XX.

Of an Aneuryſm of the humeral Artery.

H. M. aged 37, was admitted into the Hoſpital in *July* 1753, with a Diſeaſe of the right Arm, which upon enquiry was found to be greatly ſwelled and enlarged. The Tumour extended from a little above the bending of the Elbow, to pretty near the middle of the Cubit; and appeared ſomewhat diſcoloured, and pointed on its ſuperior part. Upon preſſing the Tumour, I diſcovered a Fluctuation, but there was not the leaſt perceivable Pulſation. He informed me of his having been blooded in the Baſilic Vein about 13 Months ago, that he felt conſiderable Pain from the Operation, and that the Blood was diſcharged through the Orifice by leaps. Immediately after being blooded, he perceived a ſmall Tumour to ariſe in the Neighbourhood of the Orifice, which in a Week's time had arrived to the Size of an Egg, and continued to increaſe gradually for nine Months. For a few Weeks after the Accident, the Limb was diſ-

coloured from the Shoulder to the Wriſt, owing, without doubt, to the confinement of the extravaſated Blood immediately under the two Integuments, *Cuticula*, and *Cutis*, and an inſinuation of ſome portion of it into the Cells of the *Membrana Adipoſa*. He had conſiderable Pain for the firſt three Months.

THE Operation was determined upon, and performed in the following Manner. The Tourniquet and Ligature being fixed upon the humeral Artery, and the Arm extended at its utmoſt length, and ſo placed upon a Table covered with a Blanket, that the Tumour might look upwards, an Inciſion was begun at the upper Extremity of the moſt prominent Part of the Tumour, and continued downwards about three Inches, directing the Knife in ſuch a manner as to deſcribe the half of an Oval; after this a ſecond Inciſion, correſponding with the firſt, was made on the oppoſite Side; by which means an oval Piece of the Integuments was cut out. Upon a removal of the piece of Integuments, the Contents of the Tumour were diſcharged. The Swelling conſiſted of a large Ball of coagulated Blood of a fibrous Texture which was contained in a thick Cyſt, and appeared like the Coats of

a Vein. Upon ſlackening the Tourniquet, the Wound of the humeral Artery appeared circular, and its Coats were diſcoloured, and thickened at leaſt an Inch above the Orifice. A crooked Needle with a Ligature was paſſed under the Artery above the diſeaſed Part, and tied upon it. A ſecond Ligature was made upon the Artery below its Orifice, which ſhould always be done to prevent the riſk of an *Hæmorrhage* from this Part; ſince it has been found that by neglecting to do this, a conſiderable Diſcharge of Blood has enſued ſome Days after the Operation, and the Patient's Life been brought into imminent Danger by a Reflux of Blood from the neighbouring Anaſtomoſes. And indeed I have ſeen it happen in this Operation, that after the Ligature was properly made upon the Veſſel above the Part wounded, the Orifice upon the Tourniquet and Ligature, being looſened, has bled very freely, ſo that the making a ſecond Ligature below the Puncture of the Veſſel has been found inſtantly neceſſary, which upon being executed the *Hæmorrhage* has immediately ceaſed. After the Operation, the Wound was dreſſed in the common manner, and the Patient removed to bed.

IMME-

IMMEDIATELY upon tying the Artery, he complained of a Numbneſs in his Fingers, and no Pulſation could be diſcovered in his Wriſt; but in half an Hour after the Operation, a very regular Pulſation appeared, and his Numbneſs began to go off.

FROM this time he went on very well for ſeveral Weeks, but was at length ſeized with general Convulſions attended with the Symptom of a locked Jaw, which killed him.

REMARK.

AS a Pulſation in the Part is one of the principal *Characteriſtics*, by which an *Aneuryſmal* Tumour is diſtinguiſhed from a Tumour proceeding from any other Cauſe; the want of it in the preceding Caſe may be accounted for, from conſidering the Diſtance which the Artery was at from the Integuments, occaſioned by the Quantity of extravaſated Blood that lay upon the wounded Veſſel: In this inſtance, there could be no room to doubt of the Nature of the Diſeaſe, as the original Symptoms were a ſufficient Proof of it. The want of Pulſation in this Inſtance is not ſingular, ſince by the ſucceeding Caſes it will appear, that they were likewiſe attended

with the ſame Circumſtances, partly from the ſame Cauſe, and partly from the deep Situation of the Veſſel under the *Gaſtrocnemii* Muſcles, which rendered their Pulſations equally imperceptible.

THE Circumſtance of a locked Jaw is no very uncommon Symptom; it ſometimes comes gradually on after a Wound, a Fracture of a Bone, Diſlocation, or in Conſequence of the Stricture made upon the Arteries, and their neighbouring Parts by Ligatures; at other times, this Symptom happens on a ſudden, and is generally the Fore-runner of a ſpeedy Diſſolution. But there are Inſtances where theſe Symptoms have been effectually removed by cordial Medicines and large Bliſters applied to the whole of the back part and ſides of the Neck, without the aſſiſtance of Opiates.

TWO Inſtances of which ſucceſs, I remember to have ſeen within theſe few Years. It is generally adviſed upon undertaking an Operation of this kind upon the Arm, to have the Amputating Inſtruments in readineſs, leſt a Mortification ſhould enſue upon the Parts beneath the Ligatures, in conſequence of an Obſtruction ariſing in the Veſſels. But notwithſtanding this is a Circumſtance which may poſſibly

possibly happen, yet I must own, amongst the several Operations of this kind which I have performed myself, or seen performed by others, I never once knew an Instance of its turning out so unfortunately as to require Amputation.

CASE XXI.

Of an Aneurysm of the Arteria Tibialis Postica.

J. *B.* aged 34, the last Week in *April*, of the Year 1748, was taken with a Cramp a little below his Ham, which was followed with an immediate swelling of the Calf of the Leg, attended with excessive Pain; it continued in much the same State till the Month of *July* following, when the Part began to increase both in Size and Pain.

THE whole Leg was exceedingly tense, but there was not the least Pulsation to be discovered, or the least visible Discolouration of the Integuments. However upon presumption of its being an *Aneurysm* from the deepness of its Situation, as well as from its immediate Enlargement, and great degree of Pain, the Operation for the *Aneurysm* was attempted on the 15th of *October*.

UPON

UPON opening the Tumour, the congealed Blood appeared to have acquired a fleſhy Conſiſtence; and adhered very firmly one Portion of it to another. Upon removing it totally, the *Tibia* and *Fibula* were found carious, and the Orifice of the ruptured Artery appeared juſt between the Heads of the *Tibia* and *Fibula*, ſo that it was impracticable to tie it, or at leaſt judged unadviſeable, conſidering the condition of the Leg.

IT was amputated above-knee on the Spot, and the Patient did well.

UPON opening the Knee, the *Os Femoris* was affected, and conſequently the Artery diſeaſed above the Part where it appeared to be ruptured. Some Years ago the Operation for the *Aneuryſm* was performed in a ſimilar Caſe within a few Hours after the Rupture of the Veſſel. The Tumour increaſing ſo faſt, and the Pain proving ſo intolerable, that it was neceſſary to loſe no time.

THE *Tibialis Poſtica* was burſt in the middle of the Leg; it was taken up with ſome difficulty, and the Patient recovered.

RE-

REMARK.

WHEN we have good reaſon to ſuſpect the ſame ſpecies of *Aneuryſm* has happened to one of the principal Arteries of a Limb, or to any other large Artery where the Operation is practicable, and where ſufficient preſſure cannot be made to reſtrain the *Hæmorrhage*, it is generally adviſeable to proceed immediately to the Operation, leſt the neighbouring Parts ſhould become ſo affected by the Extravaſation, as to bring on a Caries of the Bone, and Deſtruction of the neighbouring ſoft Parts, and by that means render the Operation impracticable, as happened in the firſt Inſtance, where it was found neceſſary to part with the Limb to ſave Life.

IN the ſecond Inſtance, it is probable that this was prevented by the timely Aſſiſtance given by the Operation.

IN *Aneuryſms* of the Arm proceeding from a Wound of the Artery by a Lancet, the Caſes are differently circumſtanced; and though it is found, in general, neceſſary to proceed to Inciſion and Ligature for their Cure, on account of the Part having been neglected for ſome time after the Accident; yet there are Inſtances where upon timely Application, the

Cure

Cure has been affected merely by Compreſs and Bandage; which I would recommend to be firſt of all tried in recent Caſes, and to be continued for three or four Weeks at leaſt, if there is no very good reaſon to forbid it.

THE manner in which the Wound of the humeral Artery has appeared, upon Examination after Death, to be cured, is by an intimate Coheſion of the *Aponeuroſis* of the *Biceps Muſcle*, of the *Capſula*, and of the Wound of the Veſſel; and it has been farther obſerved, that the Orifice made in the Artery (which appeared circular) has been ſtopt up with a Clot of ſolid Blood, reſembling, on its external part, the Head of a Nail; which adhering firmly to the *Cicatrix* of the Integuments, produced a conſiderable Calloſity.

N. B. FOR the Method of performing this Operation. See the Caſe of *H. M.* page 133, from which the Operation differed not but in the following particulars; to wit, the Compreſſion with the Tourniquet Ligature was made upon the *Femoral* Artery, and a removal of a part of the Bellies of the *Gaſtrocnemii* Muſcles was found neceſſary to allow room for the diſcovering the Extremities of the Artery, and tying them with the Ligatures.

CASE

CASE XXII.

A remarkable Case of an Aneurysm *of the Femoral Artery occasioned by a Fall. To which is prefixed, a short Account of the Uncertainty of the Characteristics of this Disease; communicated to the* Royal Society, Nov. 17, 1757, *and inserted in their Transactions.*

WHEN the Coats of an Artery become by any means preternaturally Distended, when they become Wounded, or when they become Ruptured in such a manner as to discharge and deposite their Contents under the neighbouring Integuments; under the *Aponeurosis* of a neighbouring Muscle, or still more deeply under the Muscles that are invested with an *Aponeurosis*, the natural Consequence attending such an Accident will sooner or later be a degree of Elevation or Tumour, which Species of Tumour is known by the term *Aneurysm*.

IF a true *Aneurysm* happens, (that is a Swelling arising from a Weakness of all the Coats which

which compoſe an Arterial Veſſel, or from a Wound or Rupture of one or more of its Coats, and a Diſtenſion of the reſt) it may often be diſtinguiſhed from a Tumour proceeding from any other Cauſe by a degree of Pulſation, ſuppoſing the Situation of the injured Veſſel be ſuperficial, as may be evinced in recent *Aneuryſms* of the Humeral Artery, which ſometimes happen from Bleeding near the bending of the Elbow-Joint, as well as in *Aneuryſms* of the inferior parts of the ſuperior Cubital Artery, the inferior Cubital Artery, or the anterior Artery of the Leg called *Tibralis Antica*; and as may be obſerved to be ſometimes the caſe too in Arteries whoſe Situations are not ſuperficial; to wit, in *Aneuryſms* of the *Aorta Aſcendens*, the *Curvature* of the *Aorta*, and the *Carotids*.

THE Symptom of Pulſation in Tumours, which take their riſe from a partial Wound, or from a Weakneſs and ſubſequent Dilatation of all the Coats of an Artery, is not confined to this Species of *Aneuryſm*, but is frequently attendant upon falſe *Aneuryſms*, that is, ſuch Tumours as are occaſioned by extravaſated Arterial Blood, ſuppoſing the Diſeaſe be a recent one of either of the preceding Veſſels,

or

or of any other Arterial Veſſel not deeply ſituated; and this Symptom of Pulſation in falſe *Aneuryſms* will ſometimes be accompanied with a Diſcolouration or variegated Appearance of the Integuments, dependent upon the inſinuation of the Blood underneath them: But if the Extravaſation be confined under an *Aponeuroſis*, or if the Diſeaſe has been of ſo long ſtanding as to admit of the Abſorption of the thinner Parts of the extravaſated Blood, or its diſperſion by any other means; and if the fibrous Parts of the Blood which are left behind ſhould be accumulated in conſiderable Quantities, and acquire ſo compact and ſolid an Appearance as to reſemble brown macerated Leather in their Colour and Texture, (which I have always obſerved to be the Caſe in old Diſeaſes of this kind) under theſe Circumſtances the original Symptom of Pulſation on the Swelling, and a Diſcolouration of the Integuments for the moſt part become imperceptible, for which Reaſons the true nature of the Diſeaſe muſt be attended with a degree of uncertainty.

IT muſt be acknowledged by all Surgeons, whoſe Experience has given them Opportunities of examining into theſe Diſeaſes, that the Symptoms of Pulſation, and a Diſcolouration of

the

the Integuments from extravaſated Blood, are not only very often undiſcoverable in old *Aneuryſms*, but likewiſe in the moſt recent ones, which proves the non-exiſtence of theſe Symptoms to be no certain characteriſtics of Tumours not being *Aneuryſmal*; and the Reaſon why this often happens may be eaſily explained and readily conceived from obſerving the very deep Situation of many Arteries that are known to be liable to theſe Injuries, ſuch as the *Femoral Arteries*, the *Arteriæ Tibiales Poſticæ*, the *Arteriæ peroncæ poſticæ*, and ſome others. Notwithſtanding I have treated of Pulſation on Tumours, and a Diſcolouration of the Integuments, when they do exiſt, as being the trueſt marks of *Aneuryſms*, yet it muſt not be inferred from what has been advanced, that the appearance of theſe Symptoms are unexceptionable Characteriſtics of Tumours being *Aneuryſmal*; for it does happen, that mere Impoſthumations or Collections of Matter ariſing from external as well as internal Cauſes, are ſometimes ſo immediately ſituated upon the Heart itſelf, and at other times upon ſome of its principal Arteries, as to partake in the moſt regular manner of their Contraction and Dilatation, (*Syſtole* and *Diaſtole*.)

A

A FEW Years ago I ſaw an Inſtance of a Boy about thirteen Years of age, who had his Breaſt Bone much fractured by a fall; on this account he was admitted into *Guy*'s Hoſpital, but not till a Fortnight after the Accident had happened.

UPON Examination there was an evident ſeparation of the broken parts of the Bone, which were removed at ſome diſtance from each other, the intermediate Space was occupied by a Tumour of a conſiderable ſize; the Integuments were of their natural Complexion. The Swelling had as regular a Contraction and Dilatation as the Heart itſelf, or the *Aorta* could be ſuppoſed to have. Upon preſſure the Tumour receded, upon a removal of the Preſſure the Tumour immediately reſumed its former ſize; all theſe are allowed to be diſtinguiſhing Signs of a recent true *Aneuryſm*. The Situation and Symptom of this Swelling were judged ſufficient Reaſons for conſidering the nature of the Diſeaſe as uncertain, on which account it was left to take its own Courſe.

THE Event was, the Tumour burſt in about three Weeks after his admiſſion, diſcharged a conſiderable Quantity of Matter, and the Patient did well by very ſuperficial Applications.

FROM what has been above advanced, it is plain, if theſe Arguments can be ſupported by Facts, that the laying down ſuch Rules for infallibly diſtinguiſhing *Aneuryſmal* Tumours from Tumours proceeding from very different Cauſes, muſt be a matter of the greateſt Difficulty; and as a farther Proof of their uncertainty, I take the liberty of offering the following ſhort Hiſtory of a remarkable Caſe which has lately occurred to my Experience.

IN the Month of *December*, 1756, *J. Y.* aged 35, received an hurt upon and about his Knee, by falling to the Ground from a Man's Back; the Accident was immediately followed by a conſiderable degree of Lameneſs and Pain, which were increaſed by walking or ſtanding; he continued in much the ſame ſtate for about ſix Weeks after the Accident, at the end of this time the Calf of the Leg was attacked with an *Œdematous* Swelling, and in a Fortnight afterwards it became ſo painful as to diſable him from walking. The Tumour continued to grow for about eight Weeks, and at length extended itſelf ſo far upwards, as to affect the greateſt part of the Thigh, the whole of which was attended with exceſſive Pain, but more

particularly ſo about the Knee. Thus much is related from the Patient's own Account.

ON the 28th of *April*, 1757, he was admitted into *Guy*'s Hoſpital under my Care; upon examination, the Thigh appeared enlarged to a very great ſize. The Tumour was uniform, and extended from the inſide of the Knee to within a ſmall ſpace of the Groin; the Integuments were in every part of their natural Colour. Upon preſſing the inſide of the Thigh it appeared ſoft, where a Fluctuation was diſcoverable, but there was not the leaſt appearance of Pulſation on this or any other part of the Limb. The Tumour on its ſuperior, poſterior, and lateral Parts was of a ſtony hardneſs.

THE Leg (which according to the Patient's account) had ſometime ſince been much ſwelled, did not now appear to be at all ſo. He was continually in great Pain, and for ſome time paſt had been incapable of taking his uſual Reſt; his Appetite was bad, he was a good deal emaciated, he had a conſtant ſlow Fever, which began about five Weeks before his admiſſion into the Hoſpital; he appeared pale and ſallow in his Complexion. From the time of his being placed under my Care to the

end of ten Days there was no apparent alteration in the Swelling, nor in the Symptoms attending it. In expectation therefore of affording him that Relief which I thought could by no other means be given, I judged it adviſeable to open the Tumour, which I did by making an Inciſion into its moſt prominent part, upon which there immediately guſhed out a large Stream of thin florid Blood, and at this Inſtant diſcovered to me the true ſtate of that Diſeaſe, which till now could not be aſcertained by any peculiar Symptom diſtinguiſhable by the Touch or perceptible to the Eye; ſeeing this, I immediately fill'd up the Wound with Lint and Tow, and proceeded in as expeditious a manner as poſſible to apply a tight Bandage upon the Thigh near to the Groin; and leſt this might accidentally break, I applied a ſecond Ligature a little below the firſt, and proceeded to amputate the Limb upon the ſpot: During the Operation the Patient fainted, but he ſoon came to himſelf again, and without any bad Symptom, gradually recovered his Health, Strength, Appetite, and Reſt, and is now in good Health.

UPON a Diſſection of the Thigh and Leg, I diſcovered the following Appearances. A con-

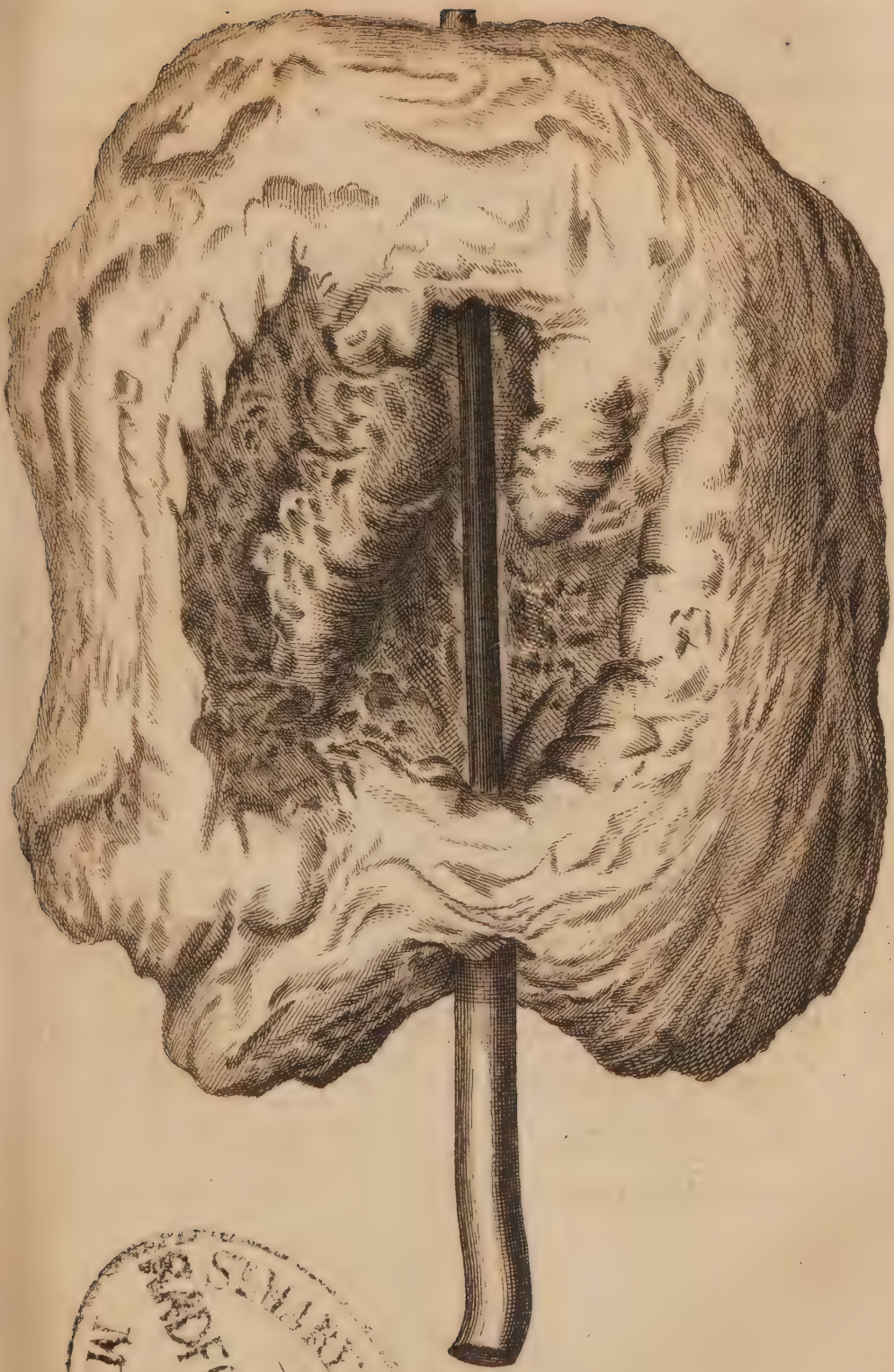
conſiderable part of the fleſhy Portions of two of the Extenſor Muſcles of the Leg, to wit, the *Vaſtus Internus* and *Crureus*, with the ſubjacent *Perioſteum*, were deſtroyed. Four of thoſe Muſcles whoſe uſes are to bend the Leg, and which compoſe the internal and external Hamſtrings, to wit, the *Gracilis*, *Semitendinoſus*, *Semimembranoſus*, and *Biceps Tibiæ*, together with that Adductor and Flexor Muſcle of the Leg called *Sartorius*, were removed at a conſiderable diſtance from the inferior part of the Thigh-bone, and from the upper parts of the *Tibia* and *Fibula*; by which means a large Bed was formed for containing the Extravaſation; which conſiſted in part of a Fluid, and in part of a coagulated Blood; by much the greateſt Portion of the coagulated Blood was firm, and had acquired the Texture and Appearance of brown macerated Leather. The ſeveral Muſcles I have mentioned had a livid and putrid Appearance. The *Os Femoris* was carious on its anterior and poſterior Parts, and for the ſpace of ſeveral Inches above the Condyles of that Bone with the Courſe of the *Linea aſpera*, as well as on the Convex or anterior Part of it, there were many *Exoſtoſes*.

THE Capſular Ligament of the Knee-joint was much thickened, and contained about two Ounces of a yellow and viſcid Synovia.

THE Femoral Artery on its inferior part, ſome Diſtance above its diviſion into the *Tibialis antica* and *Poſtica* was diſeaſed, which Diſeaſe extended four Inches upwards. The Coats of the Artery were conſiderably thickened and lacerated longitudinally: The ſmalleſt Diameter of its Cavity, in the diſeaſed Part, was two Inches and one Quarter; the largeſt Diameter was two Inches and one Half. That part of the Artery below the Diſeaſe was ſomewhat ſmaller than the Veſſel naturally is.

SINCE the above-related Caſe of the *Aneuryſm* of the Femoral Artery, I have met with a ſecond Inſtance of the like Diſeaſe, where the Circumſtances that attended the Tumour differed ſo little from thoſe of *J. Y.* that I think it needleſs to ſay any more upon the Subject, than that upon inſpecting the Thigh after the Amputation of the Limb, the Bone was found more diſeaſed, and the Artery more torn.

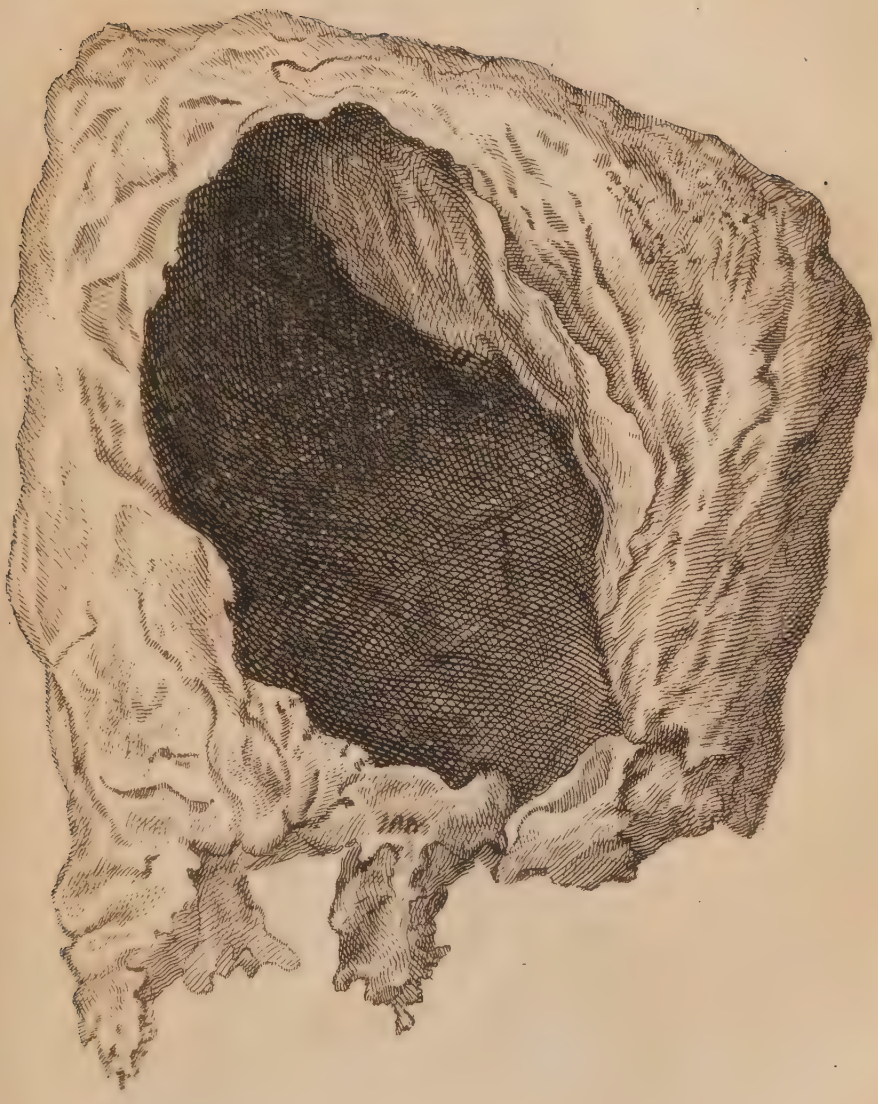
RE-



J. Mynde sc.

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Pl. 6.

p. 150.



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REMARK.

PREVIOUS to the Amputation of the Limb in the laſt Inſtance, I made an Inciſion into the Tumour, as deſcribed in the Caſe of *J. Y.* p. 146. but before I did ſo I applied the Tourniquet and Ligature to the upper part of the Femoral Artery, to prevent any bad Conſequences from the ſudden Effuſion of Blood that I judged was likely to happen from the opening of the Swelling; which Precaution I would adviſe always to be taken in the like Operation upon conſiderable Tumours of the internal or poſterior part of the Thigh, when there is any Reaſon to ſuſpect that the Tumour ariſes from Blood; and this is more ſtrongly to be recommended as the Compreſſion that is made with the Ligature gives very little Pain; and cannot by any means be injurious, ſuppoſing the Diſeaſe be not an *Aneuryſm*.

I VERY lately ſaw an Inſtance of a falſe *Aneuryſm* of the inferior Portion of the Femoral Artery, where the Integuments burſt, in conſequence of which, the Patient loſt ſo great a Quantity of Blood before any aſſiſtance could be given him, that he died in a few Hours afterwards: From hence we may learn

the Neceſſity for taking the greateſt care in Diſeaſes of this kind, and how cautious we ought to be in guarding againſt a poſſibility of the like Accident, by performing a timely Operation. In all the Inſtances I have ſeen of *Aneuryſms* in the Thigh or Leg, where the Diſeaſe has been of many Weeks ſtanding, the Bone or Bones have appeared ſo much affected as to render the Amputation of the Limb neceſſary to the ſaving of the Patient's Life.

CASES XXIII and XXIV.

Two remarkable Caſes of Ganglions, *where the Operations were performed with Succeſs.*

GANGLIONS, or Tumours formed upon the *tendinous* and *ligamentous* Parts of the Extremities, are a Diſeaſe ſufficiently known to every Surgeon of Experience, and have been treated of by moſt Writers under the Head of encyſted Tumours.

THE Parts moſt frequently attacked with this kind of Swelling are the Hands and Feet; but there are Inſtances of theſe Tumours appearing

pearing upon many other parts of the Body; an extraordinary Example of which I was ſome time ago conſulted in, where the Tumour poſſeſſed the whole back part of the Neck.

THESE Tumours ſometimes take their riſe from a Strain, and at other times they happen without any previous Accident. Unleſs they diſperſe of themſelves, or are removed by Art when recent, they frequently increaſe to a conſiderable Size, proving very inconvenient, by depriving the Part of its Strength and Motion.

THE Methods preſcribed for their Cure are various, but thoſe that are ſaid to have been found moſt effectual, are conſtant Preſſure and ſudden Blows, which ſometimes may have ſucceeded. At other times the Tumour has been known to diſappear for a time only, and at length has returned, owing without doubt to the Cyſt being left behind; which is known to be frequently the caſe in every other Species of encyſted Tumour, where the Bag is not ſufficiently deſtroyed in the Operation, or by future Applications.

BUT as the Inſtances are ſo common, where all Attempts to diſperſe them prove ineffectual, and the Parts become diſabled both from the

Size

Size and Situation of the Tumour, the Surgeon is at length obliged to have recourſe to the Knife, as a radical Cure.

I KNOW there are ſome who object to this Operation on account of the Danger attending a Wound of the ſubjacent Tendon, or Ligament; imagining that ſuch an Accident would probably be attended with the worſt of Conſequences. But this Objection can be of no great weight, ſince it is always in the Power of a ſkilful and ſteady Operator to avoid this Accident, by cutting away only a part of the Cyſt, and leaving the reſt behind to digeſt out with the future Dreſſings; which it will moſt certainly do, if the outward Wound be made ſufficiently large, as has been already moſt judiciouſly and fully explained by Mr. *Sharp*, in his Chapter of *encyſted Tumours*.

BUT ſuppoſing it ſhould happen that the Tendon, or Ligament, or both, ſhould be wounded in the Operation, the Conſequence will not probably be ſo bad as is apprehended, ſince every Day's Experience proves, that accidental Wounds of theſe Parts are known to do well with proper Treatment; and as ſome proof of the Validity of this *Hypotheſis*, the two fol-

following Cases are related. In both of which it was found absolutely necessary to divide a considerable Ligament, before the Operation could properly and effectually be performed.

A. M. 19 Years of age, in the Year 1745, strained her Wrist by a fall. The Accident was immediately followed with great Pain, a Weakness, and Swelling of the whole Hand; which, notwithstanding the proper Methods used for her Relief, continued much in the same state till 1749; when she perceived a small distinct Tumour to arise in the inner and lower part of her Wrist: This in a few Days increased to so great a degree as rendered her incapable of shutting her Hand, or moving her Fingers.

ON the 21st of *April* 1750, she applied to me. Upon Examination I discovered a Fluid in the Tumour which extended for about an Inch above the *Ligamentum transversale carpi*, to about half an Inch below it, and upon Pressure seemed to pass underneath it.

I DETERMINED upon the Operation, which I performed in the following manner. Her Hand being properly placed and secured upon a Table covered with a double Blanket; I began my Incision a little above the upper Extent

Extent of the Tumour, and continued it through the Integuments to a little beyond its lower Extent, which I carefully diſſected up, on each ſide. This gave me an Opportunity of diſcovering its exact Situation, which I found to be under the Tendons of the *Flexor carpi ulnaris*, and *Palmaris longus* Muſcles. Both of which were conſiderably lifted up, and removed from their natural Situation, by the ſubjacent Tumour. The Tumour likewiſe extended itſelf under the *Ligamentum tranſverſale carpi*, which there was a neceſſity of dividing, before I could have an Opportunity of diſſecting the Tumour from its Baſis. The upper part of the Cyſt was ſtrongly attached to the inferior parts of the Tendons of the *Flexor carpi ulnaris*, and *Palmaris longus* Muſcles. The lower part of the Cyſt adhered to the Tendons of the *Perforans* and *Perforatus* Muſcles; from whence I fairly diſſected the whole away.

THE Contents of the Tumour were a Compoſition of a *gelatinous* and *ſteatomatous* Subſtance.

SHE continued in a good deal of Pain for four Days after the Operation; at the end of that time ſhe grew eaſy, and ſo continued to the

the finiſhing of the Cure, which was perfected in ſix Weeks without any conſiderable Inflammation, or the leaſt Abſceſs, and ſhe was reſtored to the perfect uſe of her Hand.

THE other Caſe was ſo like that I have juſt now deſcribed, that I look upon it as unneceſſary to give a particular account of it.

THE Operation was performed in the ſame manner, and the Cure was attended with no other difference in its Progreſs than this; the Patient had a ſmall Abſceſs which aroſe on the middle and anterior part of the Fore-arm, which was opened by Inciſion, and did well with very little trouble. The Uſe of the Hand was as perfectly recovered in this, as in the preceding Caſe.

CASE

CASE XXV.

Of a Ganglion *ſituated upon the Fore-finger.*

C. *P.* a very luſty Woman, aged 50, ſome Years ago perceived a Swelling to ariſe upon the anterior part of her Fore-finger, which at length increaſed to the ſize of a Pigeon's Egg. It was now become ſo troubleſome from its Size and Situation, as to deprive her of the uſe of her Finger, and and to render it quite incapable of Motion.

THE part was not attended with much Pain, but from the Circumſtance of its uſeleſſneſs, ſhe was deſirous of having it removed.

SHE had asked the Advice of ſeveral Surgeons who refuſed to undertake it.

AT length ſhe applied to me, I ſaw no objection to the Operation, and accordingly proceeded to the Extirpation of the Tumour.

ITS Contents were intirely *gelatinous*, and were contained under the *Capſula* of the Tendons of the Flexor Muſcles of the Index or Fore-finger.

THERE

THERE was neither much Difficulty, nor Pain in the Operation; and the Patient did well in a ſhort time, without the leaſt Interruption or bad Symptom. She now enjoys the perfect uſe of her Finger.

BUT notwithſtanding the favourable Circumſtances that attended theſe ſeveral Operations, I would not have it inferred from what I have ſaid, that Inflammations and Abſceſſes very rarely happen in conſequence of the Operation. I confeſs I have known them to occur ſeveral times, but I never knew an Inſtance of their terminating otherwiſe than well.

REMARK.

FOR the manner of performing this Operation, ſee the Methods that were purſued in the Caſe of *R. S.* p. 100.

CASE

CHAP. VI.

Of the Empiema.

THE term *Empiema*, according to the true Etymology of the Word, ſignifies a Collection of Matter that is depoſited in any part of the Body whatſoever; but when Surgeons treat of the Operation for the *Empiema*, they mean to expreſs an Operation performed upon either or both Cavities of the *Thorax*; by which an Opening is made through the Integuments, the intercoſtal Muſcles, and Pleura, in order to evacuate any kind of Fluid that is confined, and lies floating in the *Thorax*; which by its ſituation, weight, and preſſure, is known to impede the Actions of the Organs of Reſpiration, in a degree proportionable to the greater or leſſer Quantity of extravaſated Fluid that is there confined.

THERE are ſeveral kinds of extravaſated Fluids which are ſaid to be capable of producing this Diſeaſe. Theſe are Water, Matter, Blood, Chyle, and Aliment: But whoever reflects upon the Situations and Uſes of the

Æſo-

Æſophagus and *Ductus Thoracicus*, I believe, will be of opinion that an Impediment in the active, or paſſive Organs of Reſpiration, proceeding from a Quantity of Aliment or Chyle, diſcharged into the *Thorax*, occaſioned by a Wound of the *Æſophagus*, or *Ductus Thoracicus*, can never be attended with ſuch Circumſtances as will render the Operation for the *Empiema* neceſſary: And I am ſo well convinced of the Futility of this ſuppoſition (although it be advanced by a modern Author of the greateſt Character in Surgery) that I think it quite needleſs to advance any farther Reaſons or Arguments in oppoſition to it.

As to an Extravaſation of Blood in the *Thorax*, this may poſſibly happen in ſuch a degree from a Wound of one of the intercoſtal Arteries, or ſome other neighbouring Veſſel of the *Thorax*, as may render an opening into the Cavity adviſeable: But under ſuch Circumſtances, no other Operation will probably be found neceſſary than the enlarging or dilating the Wound that has been made by the Point of a Sword, a Knife or any ſuch Inſtrument, to give iſſue to that Blood which has been diſcharged inwardly from this Accident, and which at length is become coagulated, and

pent up in the *Thorax*: But this dilatation of the Wound muſt not be put in execution, till ſuch Symptoms occur as indicate a Neceſſity for ſo doing, which I believe have very rarely been known to happen; and I profeſs that it has not occurred to me to ſee one Inſtance of ſuch a Caſe; though I think it very poſſible.

IF Water be extravaſated in large quantities, and that Water be confined, and depoſited in the *Thorax*, the making an Opening into the Cavity for its evacuation is undoubtedly adviſeable, provided the Diſeaſe be confined to the *Thorax*, which Caſe has more frequently been known to occur, than to be complicated with an *Anaſarca*, of any part of the Body, or an *Aſcites* of the Abdomen.

THE circumſtance of a collection of Water in this part of the Body is not often know to happen in ſo great a degree as to require the performance of an Operation: Nevertheleſs, it is certain this Diſeaſe has ſometimes occurred to Men of Experience; an Inſtance of which, the celebrated Monſieur *Morand* of *Paris*, has obliged the World with in the ſecond Volume of the Memoirs of the *Royal Academy* of Surgery: The ſubſtance of this extraordinary

Fact

Fact is expreſſed nearly in the following words.

AN Eccleſiaſtic, aged 22, was attacked with a Fever; a few Days afterwards, the Meaſles appeared upon him attended with a profuſe Perſpiration. On a ſudden the Perſpiration ceaſed, and the Eruption diſappeared; in conſequence of which, the Fever encreaſed with Reſtleſneſs, a pain in the Head, the Neck, and left Side, accompanied with an *Œdematous* Tumour, a Difficulty in breathing, and pain in Speaking, or Spitting. He could not reſt but by lying on his Back: His Eyes were hollow: He was weak and greatly diſpirited. Monſieur *Morand* made a Puncture with a Trocar into the diſeaſed Cavity of the *Thorax*; from whence were diſcharged near ſix Pints of Water: The laſt drops of Water were followed with a ſmall diſcharge of Matter. The Patient was inſtantly relieved from his Pain: But in ſeven Days after this Operation, the Diſeaſe returned almoſt as bad as before. For this Reaſon Monſieur *Morand* performed the Operation a ſecond time upon the ſame Cavity of the *Thorax*, not by Puncture, but by Inciſion: By this Operation, he evacuated

five Pints of Water; the Water was followed with a diſcharge of Matter, ſomething greater in Quantity than before.

THE Diſeaſe did not return after the ſecond Operation; but the Patient fell inſenſibly into an Atrophy: However, by living upon a Milk Diet, he gradually recovered, and at length was quite reſtored to his Health.

THIS Inſtance proves to us the poſſibility of an *Aſcites* of the *Thorax* without a Dropſy of any other part of the Body, as well as the probability of a Cure by the Operation: And I am perfectly convinced from my own Experience, that a Collection of Water in one or both Cavities of the *Thorax* is a Diſeaſe not ſo uncommon as is generally ſuppoſed; having ſeveral times diſcovered great Quantities of Lymph lying looſely in the *Thorax* of ſome of thoſe Subjects who have come under my Inſpection after their Death.

COLLECTIONS of Water in the Cavities of the *Thorax* and *Abdomen* have been ſuppoſed curable by the Efforts of Nature, ſo have collections of Matter: But the Inſtances of theſe Effects produced by the power of the abſorbent Veſſels, and the Evacuation of the Fluids ſo taken up, by Spitting, by Urine, by Stool or other-

otherwiſe, are very rare, and ſhould never be truſted to when the Surgeon is aſſured of the true nature of the Diſeaſe.

COLLECTIONS of Matter depoſited, and lying looſely in the *Thorax* is a Diſeaſe that more frequently occurs than Collections of extravaſated Water.

IMPOSTHUMATIONS of this part of the Body proceed from a variety of Cauſes, and when the Caſe is not attended with any great affection of the Lungs or the Liver, the making an opening into the *Thorax* to evacuate the Matter, often proves ſucceſsful: The Operation therefore ſhould be put in practice as ſoon as may be, to prevent the more noble Parts from ſuffering from the Quantity and Quality of the Extravaſation. As the Symptoms which attend the *Empiema*, the Method of performing the Operation, and the manner of treating the Wound are circumſtantially deſcribed in the courſe of the following Caſes, I have thought it unneceſſary to enlarge here upon theſe particulars.

CASE XXVI.

Of an Empiema, *where the Operation was unſucceſsfully performed.*

November 1750, *S. K.* aged 37, in *May* laſt, was ſuddenly ſeized with a pleuritic Pain in his right Side, attended with a Fever and difficulty in Breathing; for which he put himſelf under the Care of a neighbouring Apothecary, who bled him occaſionally, and at the ſame time adminiſtered ſuch internal Medicines, and topical Applications to the Part as were thought proper, but without effect. The Patient continued much in the ſame State till *July* following; when he was admitted into the Hoſpital under the Care of the Phyſician, who preſcribed for him near four Months but without much Benefit. On the firſt of *November* following, he was attacked with an uncommon difficulty of Breathing, and Pain in his right Side, for which he was blooded; this gave him ſome relief. On the Day after, I was conſulted; upon learning his Symptoms, and upon inquiring into farther Particulars, I diſ-

diſcovered the right ſide of the *Thorax* to be ſomewhat larger than the left, and the Integuments appeared a little thickened, but without the leaſt tendency to Diſcolouration, Softneſs, or any appearance of a Fluctuation. The Patient was incapable of lying on his left Side without ſuffering exceſſive Pain, which he deſcribed as extending from the middle of the Breaſt-bone to the Back. This was perceivably attended with ſo great a difficulty of Breathing as ſeemed to threaten Suffocation. The Patient could lie on his right Side without any conſiderable inconvenience, but he was moſt eaſy when lying on his Back; he never had been troubled with a Cough till within the laſt Month; nor had he ever perceived the leaſt Diſcharge of Matter, either by ſpitting, or otherwiſe. His Pulſe was quick and low, his Countenance was pallid, he had no Appetite, and complained of great Reſtleſſneſs. It is remarkable, that the Patient never remember'd to have had any Rigour, which is a Circumſtance that commonly attends the formation of Matter. Upon the Appearance of the foregoing Symptoms, I thought proper to adviſe the Operation for the *Empiema*, which he readily aſſented to, and I performed it on the ſpot in the following manner: When the

Patient was properly ſituated and ſecured, I began by making an Inciſion of about two Inches and a half long with the Courſe of the Ribs, upon the part where they form their greateſt Convexity, and betwixt the ſixth and ſeventh Ribs, which Inciſion was continued into the Cavity of the *Thorax*, from whence there iſſued three Pints of a thick fœtid Matter; from this Inſtant, he was greatly relieved. The Diſcharge was very conſiderable for the five firſt Days after the Operation, when it began to decreaſe. From the moment of the Operation, the Patient was capable of lying on either ſide, or of ſitting upright without the leaſt inconvenience; and he continued to grow better till the firſt of *December* following, when the Diſcharge increaſed, and continued in great Quantities till his Death, which happened in about ſeven Weeks after the Operation. Upon opening the Body, I found the *Diaphragm* deſtroyed quite through, and the upper part of the Liver had ſuffered greatly from the incumbent Matter. The Lungs lay looſe in the Cavity of the *Thorax*, and were not in the leaſt ulcerated, or apparently diſeaſed.

N. B.

N. B. In the Operation, the Inciſion was made nearer to the ſuperior Edge of the lower Rib, than to the inferior Edge of the Upper, which prevented the riſk of wounding the intercoſtal Artery.

CASE XXVII.

Two Caſes of the Operation for the Empiema *ſucceſsfully performed, and read before the* Royal Society *the* 19*th of* March 1752, *and* 28*th of* June 1753.

CASE I.

T. *H.* aged 27, was admitted into the Hoſpital on the 19th of *December* 1751, on account of a Pain in his right Side, and Cough, which he had laboured under for three Weeks; The Patient was immediately put under the Phyſician's Care; but notwithſtanding all proper methods uſed for his Relief, the Diſorder increaſed till the 13th of *January* following, when I was conſulted.

UPON enquiry, I found him afflicted with the following Symptoms, a quick low Pulſe, frequent Cough, and difficulty of Breathing, which

which laſt Symptom was much increaſed upon lying on his left Side, or upon ſitting upright. He appeared greatly emaciated, his Countenance was very pallid, or ſallow. Upon further Enquiry, I diſcovered that the right ſide of the *Thorax* was ſomewhat enlarged; the Integuments were viſibly thickened, but without the leaſt Diſcolouration, or perceivable Fluctuation. However, being perſuaded from the foregoing Symptoms, that there probably was an extravaſated Fluid underneath; I adviſed the Operation; which the Patient conſented to, and I performed it in the following manner.

THE Patient being conveniently ſeated, I made an Inciſion of about three Inches long with a round-edged Knife, between the tenth and eleventh Ribs, counting from above, and at about four Inches diſtance from the *Vertebræ*; the direction of the Inciſion was agreeable to the courſe of the Ribs, and by its being made nearer to the ſuperior Edge of the eleventh Rib, than to the inferior Edge of the tenth, the intercoſtal Artery by that means eſcaped being wounded; upon dividing the intercoſtal Muſcles and *Pleura* very near twenty Ounces of Matter were diſcharged. After the Matter was evacuated I introduced my Finger through

through the Wound into the Cavity of the *Thorax*, but found no adhesion of the Lungs to the *Pleura*; from whence I am inclined to conjecture, that this Abscess was originally formed in the cellular Membrane of the *Pleura*, which had at length made its way into the Cavity of the *Thorax*.

WHAT seems to corroborate this Conjecture is, that the violent Symptoms which happened to the Patient upon lying on the sound Side, or upon sitting upright, did not occur till within a Week before his Application to me. From the moment the Matter was discharged, he found very great Relief; his Respiration became quiet, his Fever and Cough gradually abated, till in about six Weeks he perfectly recovered, and was soon after dismissed the Hospital. The Discharge from the Wound continued in considerable Quantities for the first Fortnight; during that time, the Wound was kept properly open with Tents; but when the Discharge was no more than what might be expected from a superficial Wound of the same Size, all Tents were discontinued, and superficial Applications only made use of.

CASE

CASE XXVIII.

On the 19th of March 1752, *I did myſelf the Honour of communicating to this Society the Caſe of* T. H. *on whom I had performed the Operation for the* Empiema *with Succeſs. Since then I have performed the ſame Operation a ſecond time with equal Benefit; and therefore preſume to lay this Caſe likewiſe before you as a farther Proof of its uſefulneſs under the like Circumſtances.*

CASE 2.

J. C. aged 17 Years, was admitted into *Guy*'s Hoſpital on the 10th of *May* 1753, on account of a Complaint in his Cheſt which he had laboured under for three or four Weeks.

HIS Symptoms were a continual Pain in his left Side, a difficulty in Breathing, and an inability of lying on his right Side, or of ſitting upright, without greatly increaſing his Complaints; his Pulſe was quick and low, he had a ſhort Cough, was a good deal emaciated, and appeared ſallow in his Complexion.

UPON

UPON Examination, I perceived a ſmall Tumour ſituated on the anterior part of the *Thorax*, obliquely on the left Side of the Extremity of the Sternum, or Breaſt-bone. There was not the leaſt Diſcolouration of the Integuments. Upon preſſing the Tumour, his Pain, and Difficulty of breathing were encreaſed, and there appeared ſomething like a Fluctuation under my Fingers. The Patient had never had any Rigour, which is a Symptom generally attending the Formation of Matter; but from Experience I have found, that the Want of this Symptom is no proof to the contrary.

FROM the foregoing Circumſtances and Symptoms, I made no doubt of the propriety of the Operation, which I performed in the following Manner.

THE Patient being properly ſituated and ſecured, I began with making an Inciſion of about two Inches long through the Integuments and tendinous Expanſion of the *oblique Muſcles* of the *Abdomen*, upon the moſt prominent Part of the Tumour; I then proceeded to the making a ſecond Inciſion of an equal length with the firſt, tranſverſely through the upper Part of the *Rectus Muſcle* (which had a perfect healthy Appearance) directing my Knife

Knife forward betwixt the *cartilaginous* Portions of the ſeventh and eighth Ribs, and the Extremity of the *Sternum*, into the Cavity of the *Thorax*; the Inciſion being made, a thick clotted Matter, to the Quantity of twenty-three Ounces and upwards was diſcharged.

As ſoon as the opening was made into the Cavity, and the Fluid began to be evacuated (which was by leaps) the Patient expreſſed a painful and uncommon kind of Senſation, which he compared to a Weight being ſuddenly taken from his Heart. Hence, I conjecture that this part had ſuffered ſo great a Compreſſion, as to have been for ſome time incapable of performing its natural Actions, but, upon the Fluid being ſet at Liberty, the Ventricles of the Heart probably became immediately more dilated, than they had been for ſome time before, on account of the Weight they had ſuſtained. After the whole of the Matter was diſcharged, I introduced the Forefinger of my right Hand into the Cavity, with which I evidently felt the Lungs (quite looſe and free from Adheſion) the *Mediaſtinum*, and ſuperior part of the *Diaphragm*, which laſt part had been preſſed conſiderably lower than its natural Situation, by the Weight of the

the incumbent Matter; from hence it undoubtedly appeared, that this great Quantity of Fluid had been contained in the *Thorax*. After the whole of the Matter was diſcharged, I introduced a Linen Tent, properly ſecured with a Needle and Thread paſſed through it into the Cavity, which was continued to be introduced every Day for about the Space of three Weeks, now and then, as occaſion required, making uſe of the prepared Sponge-Tent. The Diſcharge was conſiderable for the firſt Week, when it began to decreaſe gradually, till at the end of three Weeks there was no diſcharge at all. From this time ſuperficial Applications only were made uſe of; at the end of five Weeks the Patient was perfectly well in all reſpects, and had recovered his former plumpneſs and healthy Appearance.

I MUST obſerve that about two Years ago he received a violent Blow on his left Side by a Fall, for which he had little or no Care taken of him. The Patient had ever ſince this Accident, at different times, been afflicted with ſome Complaints in his Side, but not conſtantly; nor have they ever been ſo bad as to prevent his acting in his buſineſs as a Sailor, till within a few Weeks before he applied to me.

RE-

REMARK.

FROM the Circumſtances, and Symptoms attending the three preceding Caſes, I think it could hardly be doubted what the Nature of the Diſeaſe was; and as the Lungs, *Diaphragm*, and *Intercoſtal Muſcles* muſt not only be impeded in their Actions, in proportion to the Quantity of extravaſated Fluid, which is confined in the Cavity of the *Thorax*, but muſt alſo be in great danger of Ulceration or Conſumption from the Quality, and Preſſure of the incumbent Matter; I look upon the Operation in all Caſes of this Kind, to be abſolutely and immediately adviſeable, and that it ſhould not be deferred in expectation of the Fluid being abſorbed into the Circulation, and evacuated by Urine, by Stool, or by Spitting: Since it muſt be acknowledged, that the Inſtances are very rare where theſe Events have been ſucceſsfully brought about; and at the ſame time that the Caſes are numerous where Death has enſued, in conſequence probably of the Operation being deferred too long, or totally neglected.

THE Operation for the *Empiema* is neither very difficult nor dangerous, and I conclude there

there can be no better Arguments advanced in ſupport of its ſafety and uſefulneſs, when undertaken in time, than the Succeſs that attended its performance in two of the three preceding Caſes; in which it has been already obſerved, that the Diſeaſes were only of a few Weeks ſtanding: In the third Inſtance, where it has likewiſe been obſerved, that the Operation was not ſucceſsful, I think this want of Succeſs might, with ſome Reaſon, be attributed to the Injury which had been communicated to the *Diaphragm*, and ſuperior part of the Liver, in conſequence of the long Confinement and quality of the Matter; or it may poſſibly happen, that the Matter had been originally formed in one or both of theſe parts, and diſcharged itſelf into the Cavity of the *Thorax*; which, for want of being evacuated in time, had at length increaſed the Diſeaſe, and deſtroyed the Patient by the Largeneſs of the Ulceration, and Quantity of the Diſcharge.

CASE XXIX.

A remarkable Case of an Empiema.

M. E. aged 30 Years, on the 13th of *March* 1759, was admitted into *Guy*'s Hoſpital, with a remarkable Complaint in his Cheſt, which attacked him in the Month of *Auguſt*, 1758, with the Symptoms of a Pleuriſy.

UPON inſpection it appeared that the left ſide of the *Thorax* was greatly enlarged and prodigiouſly diſtended: The Pectoral Muſcle was ſomewhat raiſed up: On Preſſure it felt ſoft, and readily gave way; upon a removal of the Preſſure, the Integuments reſumed their former Appearance, no marks of Impreſſion remaining on this or any other part of the *Thorax*, ſo as to conſtitute the Characteriſtic of an *Œdematous* Swelling.

THE Spaces betwixt the ninth and tenth, and betwixt the tenth and eleventh Ribs, (counting from above,) were viſibly enlarged and ſomewhat elevated: They felt ſoft, and yielded to the Fingers, but were not at all inflamed, or otherwiſe diſcoloured. Upon Examination

amination I diſcovered a fluctuation in both theſe Parts. The general Symptoms that attended this Caſe were ſimilar to thoſe ariſing from all conſiderable Collections of Fluids depoſited in either of the Cavities of the *Thorax*. The Patient had a continual ſlow Fever, a ſhort Cough, but without the leaſt Expectoration of Matter, great difficulty in Reſpiration, particularly in the Acts of Expiration: He was incapable of lying down on the right Side without very great uneaſineſs; he was much emaciated, and his Countenance was uniformly ſallow; he did not complain of ſo much Pain, or ſo great a Difficulty in breathing when in an erect Poſture, as I have ſometimes obſerved in Diſeaſes of this kind, even where the Quantity of extravaſated Fluid has been much leſs: But at the ſame time I muſt acknowledge no fair Inference could be deduced from hence, becauſe of the peculiar Poſition the diſeaſed Side was put in, when the poor Man ſat down or ſtood up; either of which he was incapable of doing without being ſupported. The left ſide of the *Thorax* inclined forwards, and protuberated in a very peculiar manner, ſo as to give the Head and Trunk an horizontal Poſture; in which po-

ſition of the Body the Weight of the contained Fluid was moſt certainly in part prevented from preſſing ſo forcibly upon the left Portion of the *Diaphragm*, the *Mediaſtinum*, and right Portion of the Lungs, as it muſt neceſſarily have done in a more erect poſition of the Body: He had one Symptom which I had never before obſerved in Patients labouring under this Complaint; that is, he was incapable of lying on his Back without bringing on very alarming Threats of Suffocation; but he did not remember ever to have heard any Noiſe or Rattling of the Pus upon Motion. He could lie moſt conveniently upon his left Side, but even that Poſture was of late become very painful to him: In ſhort, he could find no tolerable Poſture to put his Body into, but that of inclining it conſiderably forwards, which (I have already obſerved) he was under a neceſſity of doing to enable him to draw his Breath, and, I dare venture to ſay, that upon attending to the ſubſequent part of the Hiſtory of this poor Mortal's Caſe, the reaſon why ſuch Effects ſhould be produced from ſuch a Cauſe will very readily occur to thoſe who have a moderate degree of knowledge of the Formation and Uſes of theſe Parts of the Human Body.

Upon

Upon making an Inciſion upon the moſt prominent Part of the Space betwixt the tenth and eleventh Rib, into the Cavity of the *Thorax* of the left ſide, at leaſt eight *Wincheſter* Quarts of a thin yellow Matter, not at all fœtid, was diſcharged upon the ſpot in a full Stream: The Matter iſſued through the Wound by Leaps, and was projected at the diſtance of two Yards and upwards from the Patient's Body. The Patient did not faint during the Operation, nor afterwards; but from that Moment he grew eaſy, his Symptoms abated, he ſlept well at Night, and the next Day he had no bad Symptoms, excepting that his Difficulty in breathing was not quite removed; this, indeed, could not reaſonably be expected, conſidering the long Diſuſe and Extenſion which the *Diaphragm*, the Intercoſtal Muſcles, and the reſt of the Muſcles of Reſpiration had undergone from the Preſſure and Weight of the confined Matter, joined to the Injury which the Lungs themſelves had ſuſtained: The Patient continued with very little alteration till the fourth Day, when his Reſpiration became worſe, accompanied with bad Nights, a quick Pulſe, a great diſcharge of fœtid Matter from the Wound, and a Fluſhing in his Face. Theſe

Symptoms remained till the ninth. That Day his breathing was better, his Pulſe became more calm, the Fluſhings in his Face diſappeared, but the Diſcharge was conſiderable in Quantity, and he complained of a want of Appetite; which, till now, had been tolerably good ever ſince the Operation. On the tenth Day his Difficulty of breathing returned, the Diſcharge was very great and offenſive; he had very little Sleep laſt Night; in ſhort, he ſeems greatly upon the Decline; eleventh, twelfth, and thirteenth Days he continued much as on the tenth Day; fourteenth and fifteenth Days he has had more Sleep than uſual, his Appetite very bad, Cough frequent and troubleſome, Diſcharge very thin and conſiderable in Quantity. Upon exerting his Powers in the act of Expiration to diſcharge the Matter from the Cavity, there appeared an Eminence betwixt the ſeventh and eighth Ribs (counting from above) on the anterior lateral Part of the *Thorax*, which was very tender, but upon his ceaſing to exert himſelf the Swelling diſappeared; ſixteenth and ſeventeenth Days his Cough very troubleſome, the Diſcharge from the Wound was great, the Matter very thin and fœtid, he gets very little Sleep, his Pulſe quick and low, his Tongue dry

dry and parched; in ſhort, to all appearance, he ſeemed to have a very ſhort time to live; but notwithſtanding theſe threatening Symptoms he very unexpectedly ſurvived till the 10th of *June* following, exactly twelve Weeks from the time of his undergoing the firſt Operation. In the middle of the Month of *April* next preceding his Death, he thought himſelf much better than he had been for many Days, his Diſcharge at this time was much leſſened, but his Pulſe was very weak and fluttering.

ABOUT three Weeks before the Patient's Death a ſecond Opening was made by Inciſion betwixt the eleventh and twelfth Ribs by my Collegue, Mr. *Way*, under whoſe immediate Care this poor Man was from the Day of his admiſſion into the Hoſpital, and who treated him with the greateſt Humanity and Judgment: Three Days before the Patient's Deceaſe the Swelling betwixt the ſeventh and eighth Ribs opened externally of itſelf, and diſcharged at leaſt a Pint of Matter that was exceedingly offenſive.

UPON opening the Body, the following Particulars were diſcovered; to wit, the right Portion of the Lungs was greatly ulcerated on its

ſuperior part, where it adhered firmly to the *Pleura*; on the inferior part of the Cavity the Lungs adhered to the *Diaphragm*; the Lobes of the Lungs on this ſide were not ſo much waſted as I expected they would have been from the great degree of Preſſure they had ſo long ſuſtained from the prodigious Quantity of Matter that was confined in the oppoſite Cavity of the *Thorax*, nor was there any Extravaſation in the right Cavity.

THE Lobes of the Lungs on the left ſide were almoſt entirely deſtroyed; in this Cavity there was near a Quart of fœtid Matter, the whole of its internal ſurface was ulcerated, and the two inferior Ribs were carious in the neighbourhood of the ſecond Opening; in every other part they were ſound, ſo was the *Sternum*.

THE *Pericardium* and Heart appeared in their natural State. The Injury done to the internal Surface of the left Cavity of the Thorax was ſo great, as to have deſtroyed almoſt the whole of the Intercoſtal Muſcles on that ſide of the Trunk.

N. B. IT may be worth remarking, that this Patient did not at any time ſuffer the leaſt Inconvenience from the Preſſure of the external

ternal Air which entered into the Cavity of the *Thorax* through the Inciſions, as has been ſaid by Authors to have happened in a great degree in the like Caſes; but as that Effect was not produced in this, or any other Inſtance of the like kind, which has come under my Inſpection, I am inclined to conjecture that the bad Effects of the Preſſure of the external Air, when admitted through an opening made into the Cavity of the *Thorax* is ſuch an Inconvenience as may rather be ſuppoſed to be likely to happen than has been really known to happen often; the Act of Breathing having never been in the leaſt ſuſpended, although the Openings made into the Cavity have been very large, and the time taken for dreſſing the Patient (ſometimes once, ſometimes twice a Day) has been very conſiderable; but on the contrary, at every Dreſſing I have obſerved the Patient has breathed with greater freedom and eaſe than he could do before the performance of this Operation; or even for ſome Hours before the Dreſſings were renewed. As the Matter in this Diſeaſe lies looſely in the Cavity of the *Thorax*, there is no greater Danger of wounding the Lungs in this Operation, than there is of wounding the Inteſtines or *Omen-*

tum

tum in tapping the Abdomen in the *Aſcites*; and if the Method be taken, which I have recommended for making the Inciſion through the Intercoſtal Muſcles, there will be no danger of wounding the Intercoſtal Artery, which is a Circumſtance much dreaded by ſome Practitioners, but with no great Reaſon; for was this to happen it would probably not be attended with any bad Conſequences, as the Bleeding might very readily be ſtopped by Preſſure, or otherwiſe.

CHAP. VII.

Of the Operation for the Bubonocele.

THIS I believe is generally eſteemed to be one of the moſt troubleſome and dangerous Operations that occurs in the Practice of Surgery; but the Difficulty of performing this Operation with dexterity and ſafety will be greatly leſſened by acquiring a previous knowledge of the Anatomy of the Parts before it is undertaken; and by revolving in our Minds what will probably be found neceſſary to

to be done under the different Occurrences that may attend this Complaint, which perhaps is accompanied with a greater variety of Circumſtances in different Subjects than any other Diſeaſe requiring Operation.

IT is not my intention in this place to enumerate the great Diverſity of Symptoms and Appearances that have been known at different times to accompany the incarcerated *Hernia*, nor can I by any means ſay ſo much upon this Subject from my own Experience, as may be learned from the Writings of the very accurate and ingenious Monſieur *Le Dran*, to whoſe valuable Works I muſt refer thoſe who are deſirous of arriving at a minute and neceſſary Knowledge of this Diſeaſe: However, I will venture to ſay from what has occurred to my own Experience that the Danger in the performance of this Operation does not ariſe from the Wound that is made through the *Peritonæum* and tendinous Portions of the oblique Muſcles of the Abdomen (called by Anatomiſts the *Ligamentum Fallopii*) but that the Danger is undoubtedly cauſed by deferring the Operation too long; on which account the prolapſed Portion of the Inteſtine (from the præternatural Compreſſion it has long undergone from the Rings

Rings of the Abdominal Muſcles) becoming exceedingly inflamed, or upon the Point of Mortification, communicates the Diſorder to the neighbouring Viſcera of the Abdomen, and renders them incapable of performing their uſual Functions.

IF we may be allowed to judge from Analogy, it may be concluded that Wounds of the Tendinous, or even of the Membranous Parts, when made with a ſharp Inſtrument, are by no means followed with that degree of Danger ſome eminent Surgeons have ſuppoſed them to be. This being allowed, the Danger ariſing from theſe Cauſes cannot reaſonably be put in Competition with thoſe proceeding from a violent Inflammation and approaching Mortification of the ſmaller Inteſtines, which are known to be of a very delicate Texture, very ſuſceptible of Injuries, and are immediately ſubſervient to the purpoſes of Life.

IN Wounds of the Flexor or Extenſor Tendons of the Hands, or of the great Tendon of the back part of the Leg called *Tendo Achilles*, we rarely ſee that theſe Accidents are attended with any violent Inflammation, or conſiderable Danger, when they have been in part or wholly divided by a ſharp Inſtrument; but

but that they almoſt always do well with Reſt and gentle Treatment, ſuppoſing the Patient to be of a good habit of Body; ſo too in large Inciſions of the *Tunica Vaginalis* of the Teſticle (which is allowed to be a continuation of the *Peritonæum*) that are put in Practice for the radical Cure of the Diſeaſe of this part called *Hydrocele*, although it has often happened that ſevere Inflammations and Impoſthumations have been the conſequences of ſuch Methods, yet I profeſs I have never once ſeen an Inſtance of their Fatality: Nevertheleſs I would not have it ſuggeſted from any Arguments I have advanced upon this Subject, that I mean to recommend the Operation for the *Bubonocele* in any other Stage of the Diſeaſe than in ſuch a painful and dangerous one as cannot be relieved by Bleeding, Clyſters, the uſe of the warm Bath (which is to be preferred to all other Fomentations in this Caſe) and ſuch other Methods of Practice as are propoſed and recommended by the moſt experienced modern Writers upon this Subject: But I would have it at the ſame time be remembered that the Danger attending this Malady doth always proceed more immediately from the Affection of the Inteſtines, than from any Inflammation

or Suppuration conſequent upon an Inciſion made through the *Peritonæum* or Tendons of the Oblique Muſcles of the *Abdomen*, and therefore that the Operation ſhould not be deferred till the Patient's Strength is too much exhauſted by continual Pain and an encreaſed ſymptomatic Fever, a want of Reſt, and an inability of keeping any Nouriſhment in the Stomach and Inteſtines.

IN the Proceſſes of this Operation, it has been ſaid that no part of the Omentum ſhould be cut away unleſs it be mortified, but I am perſuaded it will be found neceſſary to differ from this Rule upon particular Occaſions, and from attending to the Hiſtory of the following Caſe I don't at all doubt but the Practice will be judg'd reaſonable and neceſſary by Men of Candour and Experience in the Profeſſion of Surgery.

CASE

CASE XXX.

IN the Month of *February*, 1757, I was called upon to viſit Mr. *A. B.* a Gentleman who had been confined to his Bed for twelve Days with an *Hernia Inguinalis*, for which he had received no Relief at all from any thing that had been done for him; but, on the contrary, he gradually grew worſe and worſe.

UPON feeling the Tumour I diſcovered a very great Tenſion upon it, the Tumour reached from the Perforation of the *Obliquus Deſcendens* Muſcle of the *Abdomen* to half way down the *Scrotum*. The Patient had a ſevere ſymptomatic Fever, was haraſſed with frequent Retchings, had voided no Excrement by Stool for the laſt ſeven or eight Days; and was in ſo great and continual Pain, that he was deſirous of ſubmitting to any Treatment that might be thought reaſonable, and likely to give him eaſe. There was a conſiderable Tenſion and Hardneſs on the upper part of the Tumour, juſt ſuch an one as I have frequently had an Opportunity of remarking, (and which perhaps is not eaſy

to

to deſcribe,) where no Relief could be afforded in the like Diſeaſe but by Operation; under theſe Circumſtances I was convinced he had no chance of Recovery but by ſubmitting to the Operation, which I imagined could not be deferred many Hours longer without greatly diminiſhing the Proſpect of its Succeſs; for this Reaſon I propoſed it to him, to which he readily acquieſced, and it was accordingly done. After making my Inciſion with a round pointed Knife, which I began a little above the ſuperior Extent of the Tumour, and continued a little below the inferior Extent of it, I proceeded with Care to divide the Sac of the *Hernia*, which diſcovered to me a conſiderable portion of the *Omentum* rolled up like a Ball. The Ball of *Omentum* had a very uncommon Appearance; to the Touch it was ſo criſp and ſo near to a ſtate of Brittleneſs that I was for ſome time in doubt what it was; I ſeparated its Fibres pretty eaſily with my Fingers, and at length arrived at its Centre; in which was incloſed a ſmall portion of the *Inteſtinum Ileum*, or *Jejunum*, I could not tell which, nor was it at all material for me to determine this Point. The Gut had acquired a dark brown Appearance, and felt quite tenſe: I proceeded next to

divide

divide the Rings of the Muſcles obliquely upwards and outwards, and then returned the Inteſtine into the Abdomen by gently preſſing it with my Fingers. The Inſtrument I uſed for dilating the Rings of the Abdominal Muſcles was a pair of Probe Sciſſars, which I have always found to be the moſt manageable and leſs hazardous Inſtrument for this purpoſe, and which in general may very ſafely be made uſe of without the Aſſiſtance of any other Guide than the Fore-finger of the left Hand, which muſt be firſt introduced a little way through the Wound of the Tendons of the oblique Muſcles of the Abdomen, with which the Inteſtine may be eaſily kept ſafely under, and the lower Blade of the Sciſſars by this Method prevented from doing any miſchief.

AFTER the Inteſtine was returned into the *Abdomen* I cut away at leaſt two Ounces of the diſeaſed *Omentum*, which was the whole of what lay in the *Scrotum*, without making any Ligature upon it, from which no Blood at all was diſcharged. That Portion of the *Omentum* which lay in the paſſage from the *Abdomen* to the *Scrotum* adhered firmly to the neighbouring Parts, where I left it, and then made two tranſverſe Stitches through the Lips of

the upper part of the Wound, by paſſing the Needle through the Integuments only at about the third part of an Inch from the Edges of the Wound, and at about an Inch diſtant from one another; the Ligatures were about the thickneſs of a common ſilver Probe, made of coarſe Thread, but not waxed, becauſe theſe are leſs liable to wear through the Edges of a Wound than Ligatures that are waxed, and therefore to be preferred in all Caſes, where they are deſigned merely as Retentives.

IMMEDIATELY after the Operation an emollient Clyſter was adminiſtered as an internal Fomentation, and to procure an Evacuation of the *Fæces*, both which purpoſes it very well anſwered; but as there ſtill remained ſome Pain in the *Abdomen*, and the Pulſe was now become too quick and full, the Patient was twice let Blood in the firſt three Days after the Operation, which wholly removed the Remains of the Inflammation; from this time he went happily on, and in leſs than five Weeks the Cure of the Wound was completed. To prevent any return of the Complaints, the Patient was very ſtrictly kept upon a ſoft liquid Diet for a Fortnight after the Operation, and then he was permitted to eat only ſuch Solids as were

were ſuppoſed to be the moſt eaſy of Digeſtion till he was quite well.

REMARK.

AGREEABLE to the Advice of the moſt eminent Practitioners I directed the Patient to wear a ſteel Truſs upon the Part, which he has done ever ſince the Wound has been healed, but I believe in this particular Inſtance there was no great occaſion for ſuch a Precaution; ſince that Portion of the *Omentum* which adhered to the internal Surface of the Paſſage leading from the Abdomen to the *Scrotum*, ſerved effectually to ſtop up the natural Opening, and rendered a return of the *Hernia* not very probable. The Method of treating the Wound was by fomenting it twice a Day with an emollient Fomentation; the Part was dreſſed with warm Digeſtive, and over the Digeſtive a Pledgit of Tow ſpread with the *Ceratum album* was laid, all which Dreſſings were ſecured on with a broad ſingle T Bandage, and continued as long as was thought right. In this Operation it is ſometimes found neceſſary not only to remove part of the *Omentum* when diſeaſed, but to take away likewiſe a part of the *Peritonæum* that forms the Sac of the *Her-*

nia: This Sac ſometimes becomes exceedingly indurated and thickened, under which Circumſtances the Exciſion of it is adviſeable and neceſſary.

CASE XXXI.

Of an incarcerated Hernia Inguinalis.

A. B. about 20 Years of Age, in the Year 1748-9, was brought into the Hoſpital with an *Hernia Inguinalis*, which he had been ſubject to for many Years without ever wearing a Truſs. It had been down for ten Days, attended with exceſſive Pain, without being once returned, or any means uſed to relieve him. His Symptoms were a low languid Pulſe, frequent reachings to Vomit, and Hiccoughs. The Tumour was ſtill exceedingly tenſe, for which reaſon it was judged adviſeable to proceed immediately to the Operation. The Contents were a Part of the *Inteſtinum Ileum* and *Omentum*, both exceedingly inflamed, and the latter tending to Mortification. They adhered to each other, and the *Omentum* to the *Sac* formed by the *Peritoneum*, which was become thicker

thicker than a Crown-piece, and ſeemed quite diſtinct from the *Tunica Vaginalis*, upon which it lay. The *Sac* as well as the diſeaſed Part of the *Omentum* were cut off, without making any Ligature upon either of them. The Inteſtine and ſound part of the *Omentum* were returned into the *Abdomen*, and two Stitches were made through the Integuments, after having firſt dilated the Rings of the oblique Muſcles upwards and outwards with a Pair of Probe Sciſſars. Soon after the Operation, a Clyſter was adminiſtered, by which means two or three Stools were procured, and the Patient grew tolerably eaſy. The ſecond Day after the Operation, the whole *Abdomen* became prodigiouſly enlarged and tenſe; but in a few Days afterwards it ſubſided, by the help of Fomentations and Clyſters, and the Patient went on ſeemingly well to the eighteenth Day; when on a ſudden he became very reſtleſs, a violent Looſeneſs, attended with *delirium*, enſued; and he expired about forty-eight Hours after this Attack. Upon opening the Body, I found the Inteſtines in general greatly inflamed, the *Ileum* was mortified in many places, and ſeveral Abceſſes were formed in the Meſentery.

Query. Is it not probable, that the bad Symptoms, ſuch as Inflammation, Tenſion, *&c.* ceaſed a few Days after the Operation; and that the Fever, attended with Inflammation, which came on afterwards, was merely accidental and not at all the Effect of the Operation? Since it is very certain that all Inflammations of the ſmall Inteſtines, terminating in Mortification, are very ſpeedy, and admit of no great Intermiſſion in their Progreſs.

CASE XXXII.

Of an Hernia Umbilicalis *from Tapping.*

NOtwithſtanding it ſeldom happens that an *Hernia* is formed in conſequence of opening the Integuments at the Navel, in order to evacuate the Water contained in the *Abdomen*, in that Species of Dropſy called *Aſcites*; yet there have been undoubted Inſtances where this Species of Rupture has ariſen merely from this Cauſe, and been attended with ſuch Circumſtances as made it neceſſary to perform the Operation for the

Hernia

Hernia Umbilicalis. It appears that the opening made through the *Peritonæum*, though very ſmall, is nevertheleſs capable of being ſo much enlarged from the Stream of Water in the time of its Evacuation, or from the Preſſure of the Inteſtines againſt the internal Part of that Membrane, grown greatly diſtended and flaccid from the Quantity and Nature of the Contents, as to make it incapable of reſiſting the Force it ſometimes meets with in Coughing, Sneezing, *&c.*

A. B. was admitted into the Hoſpital with an Aſcites or Dropſy of the *Abdomen*, which was become ſo diſtended by the Water, as to render him incapable of lying down without bringing on ſuch a difficulty of Breathing as threatened Suffocation (from the Compreſſion, probably, which the *Diaphragm* and Lungs laboured under in this Situation of the Body) for theſe Reaſons it was judged neceſſary to Tap him. Upon Examination, his Navel appeared *protuberant*, and puſhed forward as large as an Egg. Its Integuments were thin, and almoſt tranſparent. Upon my conſidering that an opening made through this part would be ſufficient to evacuate all the Water; and

having ſeveral times performed the ſame Operation (agreeable to the Advice of the Moderns) without incurring the leaſt inconvenience, I did not at all heſitate at the Propriety of repeating it, which I did in the following manner.

THE Patient being ſeated in a Chair of a convenient Height, and his Hands properly placed acroſs the upper Part of the *Abdomen*, at the ſame time an Aſſiſtant preſſing on each ſide of it, I plunged the Point of a common Lancet in to the Navel on its moſt protuberant part, and by this means diſcharged the whole of the Fluid without farther trouble; After this a flannel Compreſs, dipt in Spirits, was applied upon a Plaiſter that was firſt put to the Wound, which was ſecured on by a long flannel Roller, and the Patient removed to Bed. He was as well as could be wiſhed for ſeveral Days after the Operation, but at length complained of exceſſive Pain in the Navel, which appeared ſwelled and inflamed, attended with frequent reachings to Vomit and Fever (the conſtant Symptoms of an incarcerated *Hernia*) I endeavoured to relieve him by Fomentations, Clyſters, *&c.* but his Pains remaining intolerable, and being incapable of aſſiſt-

assisting him by any other means. I proceeded to the Operation, which I performed in the following Manner.

THE Patient being removed from his Bed and laid supinely upon a Table of a convenient Height, covered over with a double Blanket, I placed a Pillow under his Shoulders, by which means the *Abdomen* became relaxed; his Legs at the same Time hanging down from the Sides of the Table, were properly secured by two Assistants. After this, I began with making an Incision, with a round-edged Knife, at the upper Extent of the Tumour; continuing it in a straight Direction downwards, a little beyond its lower Extent; upon cutting through the Integuments, I discovered a Portion of the *Intestinum Ileum* without any of the *Omentum*; the Intestine was greatly inflamed. When I had proceeded thus far, I introduced the Fore-finger of my left Hand through the Wound into the Cavity of the *Abdomen*, with which I gently compressed the Intestine, and then proceeded to enlarge the Wound with the same Knife, which I introduced upon my Fore-finger. This gave me an Opportunity of returning the Intestine without Difficulty. It appeared quite loose, and free

free from adheſion. When the Inteſtine was thus returned, I made one Ligature acroſs the Wound, by paſſing a crooked Needle through the Integuments only, at about a Quarter of an Inch from the Edge of the Lips of the Wound: But the *Abdomen* appearing conſiderably diſtended in two Days after the Operation, and the Patient complaining of great uneaſineſs from the Ligature, I immediately cut it away, which relieved him; but the Symptoms of his Vomiting, *&c.* ſtill continued, and he expired in a few Days afterwards.

Query. Is it not probable, that if the Operation of the *Paracenteſis* had been performed on the left Side of the *Abdomen*, obliquely below the Navel, half way betwixt that and the Spine of the *Os Ileum*, that the Patient might have lived for ſome time, as is very common in Caſes of this kind; and is it not more than probable that his ſpeedy Death was brought on by the ſtrangulated Inteſtine? if this be allowed, it may be inferred from the preceding Caſe, that the Operation cannot be ſaid to be entirely free from that Danger which may always be avoided by tapping

tapping with the Trocar, in that part of the *Abdomen*, I have juſt now deſcribed: But I muſt own this Accident is not often likely to occur, ſince this is the only Inſtance of the kind I have ever ſeen, which aroſe from the like Cauſe.

CASE XXXIII.

Of a Wound penetrating the Abdomen.

J. W. aged 22, was ſtabbed with a Horſe-Picker on *Wedneſday* the 22d of *November*, 1748, about three Inches a little obliquely on the right Side, below the Navel. He bled very little at firſt; about an Inch of the ſmall *Inteſtine* puſhed out at the Orifice, which was returned by a Surgeon, and the Wound ſewed up.

THE Wound continued diſcharging Blood in ſmall Quantities till the *Sunday* following, when his Fever increaſed, and a large Quantity (as nearly as could be gueſſed about a Pint) of blackiſh curdled Blood, burſt out at the Orifice; the Ligature burſt open the following Week.

THE

THE Fever continued with Vomitings accompanied with a Tenſion of the whole *Abdomen*, which was particularly hard and tumified, in the Neighbourhood of the Orifice.

IN this circumſtance, I had thoughts of dilating the *Abdomen*, in order to evacuate the extravaſated Blood; but the *Sunday* following it diſcharged itſelf in a larger Quantity than before, and continued to diſcharge very greatly for ſome Days, when at laſt it began to diminiſh; all the bad Symptoms (Vomiting, Purging, Fever, loſs of Appetite, *&c.*) by degrees abating, and in proceſs of time the Diſcharge was purulent, but conſiderable in Quantity. However, it healed without any further Inciſion, and was well the 17th of *January* following.

Query. Is it not reaſonable to imagine, from the Circumſtances attending this Caſe, that the Violence of the Symptoms aroſe from the extravaſated Fluid being confined in the Cavity, and from the Inflammation conſequent upon the Needle and Ligature being paſſed through the *Peritoneum* and tendinous expanſions of the *tranſverſe Muſcles?*

IT

IT is probable, that if a free Diſcharge of the Blood could have been procured from the Beginning (which might poſſibly have been effected by leaving a depending Orifice) theſe Symptoms would have been prevented. So that in all Wounds penetrating the Cavity of the *Abdomen*, we ſhould only make uſe of the Suture, where the Inteſtines are incapable of being retained in their proper Situation without it; at the ſame time having a Regard to a depending Orifice for the Diſcharge ariſing from the divided Veſſels.

CHAP. VII.

Of the Stone in the Bladder of Urine.

THE Stone in the Bladder is a Diſeaſe to which both Sexes are ſubject, and probably the Urine of Females is equally liable with that of Males to the formation of ſtony Concretions; but as the *Urethræ* of Women are larger, ſhorter, more depending in their ſituation, and more capable of Dilatation than thoſe of Men, theſe may very likely be the Reaſons why ſo few Females compared with the number

number of Males, are in ſuch a degree afflicted with this Diſeaſe, as to require the Surgeon's Aſſiſtance for the extraction of one, or more Stones out of the Bladder. The exact difference betwixt the number of Males and Females that undergo this Operation, I am unable to aſcertain; but by what I can recollect from my own Experience and Obſervation, I think I may venture to ſay there are at leaſt ten Males to one Female who come under the Surgeon's Hands upon this Account. In ſome Subjects it happens that the formation of a Stone originally begins in the Papillæ of the Kidneys, in others in the Pelves of the Kidneys, whilſt in others there is no apparent diſpoſition to a formation of a Stone in any part of the Kidneys themſelves, or their Pelves, but this Stone concreting Diſpoſition begins to ſhew itſelf in the Bladder, as appears to have been ſometimes the Caſe from the Effects that are produced by extraneous Bodies; ſuch as Pins, Needles, Bodkins, Bullets, Bits of Bone, Bougies, *&c.* which were accidentally admitted into the Bladder, and which by being lodged there, have ſhortly attracted the gravelly particles of the Urine, and became the *Nuclei*, or Baſes of Stones of a conſiderable Size. Inſtances of

theſe

theſe Phænomena have now and then occured to Men of Experience; of which we have many Accounts delivered to us from undoubted authority: Amongſt theſe, the Caſe of *M. E.* deſcribed in one of the following Caſes is perhaps one of the moſt ſingular, and unaccountable: If the Stone be originally formed in any part of the Kidneys, it often happens from the Streams of Urine which are almoſt continually ſecreted by theſe Bodies, and plentifully conveyed from them through the *Tubuli Urinarii* into their Membranous Pelves, that the ſtony Particles are waſhed away through the *Ureters* into the Bladder; from whence they are happily diſcharged by the *Urethra*, ſometimes in the Shape of complete round ſmall Stones of a reddiſh Hue, reſembling the Spawn of a boiled Lobſter, whilſt at other times they are voided in the figure of Barley-corns, Olive-ſtones, *&c.* and are of different Colours and Conſiſtencies in different Subjects. But this is not always the caſe, for it now and then happens that a Stone though ſmall enough to be diſcharged from the Bladder into the *Urethra* is incapable of paſſing through that Channel with the Stream of Urine, therefore it muſt neceſſarily remain there till it be removed

moved by Art, which ſometimes it is found neceſſary to do by Inciſion, on account of the Violence of the Pain, as well as by reaſon of a ſuppreſſion of Urine, being brought on by the Paſſage being plugged up.

AT other times it has happened, that a Stone has remained fixed in the *Urethra* for ſeveral Years without occaſioning any conſiderable Pain or a ſuppreſſion of Urine, and that the Stone has at length encreaſed to a very extraordinary Size, becoming troubleſome only from its Weight and Bulk: An Inſtance of which I have lately had under my Care, which on Account of its Singularity I have thought proper to give the following ſhort Account of; and have likewiſe cauſed a Drawing of the Stone to be made, and added to this Chapter.

S. B. a young Man aged 20 Years, put himſelf under my Care in *September* 1759, to be cured of a Complaint which he had in the *Urethra*. Upon Enquiry I was informed by him that he had little or no Pain, that he had no difficulty in voiding his Urine, which he did in a full Stream, but that he had a Swelling betwixt the *Scrotum* and *Anus*, which was inconvenient to him when he moved about.

Upon

Upon feeling the Part there was a very evident hardneſs, and Tumour; by introducing a Bougie, or Female Catheter into the *Urethra*, it was plain there was a Stone. I adviſed the cutting it out, which was complied with, and I proceeded to the performance of the Operation in the following manner.

THE Patient being placed upon a ſteady Table of a convenient Height, covered with a double Blanket, and a Pillow being placed under his Shoulders, I cauſed his Hands and Feet to be tied together in the ſame manner as is done in the Operation of cutting for the Stone in the Bladder. The Patient being ſteadily held in this poſture by two Aſſiſtants, I divided the *Urethra* longitudinally, by Inciſion, as far as the Tumour extended; and with my Thumb and Finger, I readily extracted the Stone: After the Stone was extracted, I brought the Lips of the Wound together and kept them ſo with the twiſted Suture. By means of this Suture, and by paſſing a Bougie through the *Urethra* beyond the extent of the Inciſion, which was continued in the paſſage every Day for ſeveral Hours. the Wound proceeded happily on till it was quite healed,

which was in about three Weeks; and there remained no inconvenience at all.

N. B. The Patient never remembered to have had any Pain like a Fit of the Stone. Sometimes it unhappily proves, that the Stone which is formed in the Papillæ or Pelves of the Kidneys remains in that Situation till it has arrived to ſo conſiderable a Size, as to be incapable of paſſing eaſily through the *Ureters*; from whence Inflammations, excruciating Pains in the ſmall of the Back, extending obliquely acroſs the *Abdomen*, accompanyed with Vomitings, Contraction, of the ſpermatic Chord and Teſticle, and a Numbneſs of the internal Part of the Thigh on the diſeaſed Side are in ſome Subjects produced; which ſeveral Symptoms are often happily removed by the Phyſician's Aſſiſtance. Sometimes the Diſeaſe terminates in the Death of the Patient; at other times it has happened that a Stone from being immoveably fixed in the Pelvis of the Kidneys, has produced an Inflammation and Enlargement of that Body, and its neighbouring Parts; which has at length ended in an Abſceſs; and by burſting has formed an external Opening; through which there have been

been occaſional Diſcharges of gravelly, and ſtony Particles. But if this Tumour be opened by Inciſion, and the ſtony Particles be extracted by the Surgeon, the Operation is then called *Nephrotomy*; which Operation notwithſtanding whatever may have been ſaid by *Marchetti* or others upon the Subject, can only take place when thus circumſtanced, and then the performance of the Operation is not attended with any greater difficulty than the Opening an Abſceſs in any other part of the Body.

IF the Stone has paſſed from the Kidney through the *Ureter* into the Bladder, and remains there till it becomes large, it ſeldom happens that it is long confined in the Bladder without bringing on painful Symptoms; the frequency and ſeverity of which depend upon Conſtitution, Motion, the Size, Situation and Form of the external Surface of the Stone, or Stones, that are lodged in the Bladder. Rough, large and pointed Stones, *cæteris paribus*, being always productive of more ſevere Symptoms than ſuch as are ſmooth, not rugged, and ſmall.

THE Symptoms which ariſe from a Stone in the Bladder are different in different Subjects, both as to frequency and ſeverity: Some

People who are afflicted with this Diſeaſe complaining of continual Pain, whilſt others ſhall enjoy long intervals of Eaſe; but this difference, as I have before obſerved, depends upon Circumſtances. For inſtance, if the Stone in the Bladder be ſmall, not pointed, nor rugged; if the Patient be of a ſober Diſpoſition, and his ſtation of Life gives him an opportunity of keeping ſtill and quiet, the Neck of the Bladder (which perhaps is the principal Seat of Pain) will not in general be ſubjected to ſuch frequent Irritations and conſequent Inflammations as it would otherwiſe be. As a Proof of the Neck of the Bladder being the Part chiefly affected in a Fit of the Stone, and from whence the ſeverity of the Pain ariſes, I affirm I have often obſerved, upon ſearching Patients who labour under this Diſeaſe, that although they have been in exceſſive Torture at the time of ſubmitting themſelves to this Examination, the Inſtrument by paſſing into the Bladder has removed the Stone from the beginning of the *Urethra*; in conſequence of which the Patient received very ſpeedy Relief, and an Interval of perfect Eaſe has ſucceeded and continued till the Stone returned to the Neck of the Bladder; which, in ſome inſtances

ſtances, has not happened for a conſiderable time afterwards.

THE Symptoms ariſing from a Fit of the Stone are not always ſuch as can entitle the Surgeon to determine poſitively upon the true nature of the Diſeaſe without ſearching; there being many Cauſes which produce almoſt the ſame Effects in the Bladder as thoſe ariſing from a Stone. If the Neck of the Bladder, or the *Urethra* itſelf, be inflamed in conſequence of an Excreſcence, or Contraction of either of theſe parts ariſing from Venereal, or other Cauſes; or if the Patient labours under a Diſeaſe of the *Inteſtinum Rectum* proceeding from the Piles, or a ſchirrous ſtate of that Gut, theſe Maladies will frequently produce ſuch Symptoms as are very like ſome of thoſe attendant upon a Stone in the Bladder, and I have known ſeveral Inſtances, where from an Impoſthumation of the Kidney (a Diſeaſe I think more frequent in Females than Males) ſuch excruciating Pains have ariſen in the Bladder, *Urethra*, and neighbouring Parts, attended with almoſt conſtant inclination to Urine, and voiding it by little and little, with a large Quantity of ſlimy ſediment depoſited in the Urinal, as has rendered it impoſſible

for me to determine abſolutely what the Diſeaſe was, till I have been convinced from ſearching into the Bladder, that neither a Stone nor any other Diſeaſe of that part, or the *Urethra*, has been the Cauſe of theſe Complaints. The Patients under theſe Afflictions have gradually waſted away, and at length died; ſeveral of which I have had an opportunity of Opening, and have ſometimes found one Kidney, ſometimes both, greatly waſted, exceedingly flabby, and a conſiderable Quantity of Matter has, by ſqueezing, been preſſed out of their *Tubuli* or *Papillæ*; in theſe I have never found any gravelly or ſtony Particles; and I have obſerved that the Patients had very little or no Complaints in the Kidneys themſelves, which I ſuppoſe may be accounted for from their being ſo ſparingly ſupplyed with Nerves, as Anatomy teaches us they are. At other times I have known much the ſame Complaints produced in the urinary parts of Females, as thoſe I have already deſcribed, where no Stone nor any other Diſeaſe of the Bladder or *Urethra* has appeared upon ſearching; but upon introducing my Finger up the *Vagina* a Scirrhus of the *Uterus* and *Vagina* has been diſcoved, from whence ariſe thoſe affections

of

of the Bladder from a conſent of parts. But in theſe Caſes there was no ſlimy Sediment in the Urine; which, when the Kidneys are much affected, is generally very glutinous, and remarkably great in Quantity.

THOUGH I have obſerved that ſome of the Complaints which are attendant upon a Stone in the Bladder are ſimilar to thoſe that are produced from many other Cauſes, yet I think there are certain Symptoms which are peculiar to the Stone. Theſe are an inclination to go to Stool, attended with a baring down of the *Rectum* whenever the Patient Urines, an incapacity of riding on Horſeback, or in a Carriage upon rugged roads, without greatly aggravating the uſual Symptoms, and ſometimes bringing on an evacuation of bloody Urine; which circumſtances when joined to an encreaſed Pain in voiding the laſt Drops of Urine, and that Pain is continued to the *Glans Penis*, make it hardly doubtful that the Patient has a Stone in the Bladder. But the moſt certain marks of the Diſtemper are the Patients being capable of feeling ſomething roll about in his Bladder, and of eaſing his Pain, or promoting the evacuation of his Urine by altering the Poſition of his Body, or by thruſting his

Finger up the Fundament, by which means the Stone becomes removed from the Neck of the Bladder; which is a very common thing with Boys to endeavour at by ſtanding upon their Heads, and by forcibly pulling their Yards; by which means the *Prepuce* in them almoſt always becomes conſiderably elongated and inflamed.

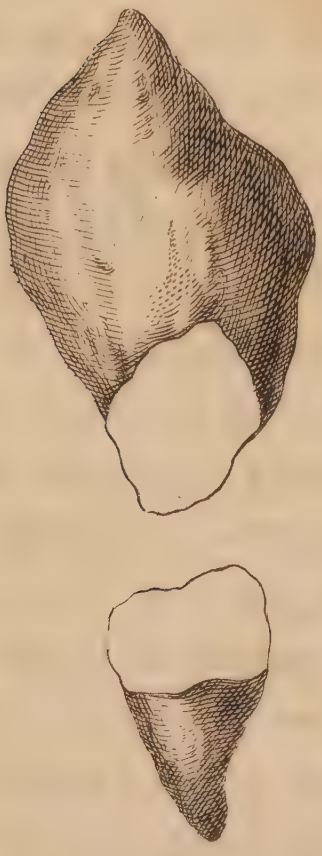
THUS much I thought not improper to ſay upon this Subject before I proceeded to an account of the three following Caſes, as it might poſſibly give ſome Information to the younger Surgeons, for whom theſe Papers are intended, and probably may prevent them from giving too poſitive an Opinion in Diſeaſes of this kind, before they have ſufficiently ſatisfied themſelves of the Facts by a previous Examination of the Parts, which I would always recommend to be done, leſt they fall into an Error of Judgment.

CASE

Fig. 1.



Fig. 2.



J. Myrde fo.

CASE XXXIV.

A ſingular Caſe of the Stone.

IT is a Maxim laid down by the moſt experienced Writers in Surgery, that when a Stone, taken out of the Bladder, is found to be rough on its Surface, it amounts to a Proof of there being no other remaining behind. But notwithſtanding it is confirmed by Experience, that this Obſervation is generally well grounded, yet there are Inſtances which prove this Rule to be not altogether without exception.

FOR which reaſon it is adviſeable not to be determined abſolutely from appearances only, but to be farther ſatisfied during the Operation, by introducing the Fore-finger, or a Female Catheter, through the Wound into the Bladder; which may always be done without giving much Pain to the Patient, or any great trouble to the Operator; and is doubtleſs the beſt way of being ſatisfied in a fact of ſo great Importance.

SINCE

SINCE I have had the Opportunities of making the two following Obſervations, I can't help conjecturing, that there have been ſome Inſtances of a Stone, or Stones, being left behind in the Bladder, merely from having too great a Confidence in this general Rule at the time of Operating; which Opinion I am led into, from having ſometimes known Patients relapſe into the ſame Diſorder, in a few Months or Weeks after the healing of their Wounds, and to require a ſecond Operation: When the Stone, upon being extracted, has appeared of ſo conſiderable a Size, as to make it probable that it muſt have been of much longer growth than the ſhort time between the two Operations could admit of.

IN *October* 1753, I cut a Boy of 14 Years of Age, from whom I extracted a rough Stone of the Size of a Pigeon's Egg. After which, I introduced my Fore-finger through the Wound into the Bladder, and diſcovered a ſecond rough Stone nearly of the Size with the former, which I likewiſe extracted, and the Patient recovered without any Occurrences worthy of communication.

RE-

REMARK.

IN a few Days after the Operation, it commonly happens that ſome of the Urine paſſes through the *Urethra*, and continues to do ſo without interruption, till the whole of it finds its way through this Channel, and till the Wound is healed; but I have ſometimes obſerved, that at the end of ſeveral Weeks, the Urine ſtill continues to flow in great Quantities through the Wound, and endangers a Fiſtula, or at leaſt greatly retards the healing of the Wound. In ſuch caſes, I have often introduced a Bougie through the *Urethra* into the Bladder, with advantage. This, by equally diſtending the Paſſage, and preſſing upon the internal part of the Wound, has in a few Days diverted the Courſe of the Urine, and diſpoſed the Parts to heal more evenly and expeditiouſly than they otherwiſe would have done.

N. B. The Reaſon that induced me to be particularly circumſpect in the Caſe I have juſt now ſpoken of, aroſe from the following Accident.

IN *December* 1752, I ſaw ten rough Stones preſented to the *Royal Society*, which were taken out

out of the Bladder of an old Man; the largeſt of which weighed eight Ounces and an half, the others were ſmall; theſe Stones were taken out of the Bladder after the Patient's Death.

SINCE then it appears, from the preceding Accounts, that two Inſtances have occurred in ſo ſhort a time, which prove Exceptions to the general Rule laid down by almoſt all Writers, I was induced to offer theſe Hiſtories to prove the poſſibility of the like *Phænomenon* happening again.

CASE XXXV.

Of a piece of Bone, together with a Stone in the Bladder, ſucceſsfully extracted. Inſerted in the Philoſophical Tranſactions, *printed* Anno 1753.

THE Stone in the Bladder is a Diſeaſe common to both Sexes, and the Symptoms and Circumſtances attending it, are in general ſo much alike and ſo well known, as to render few Caſes of this kind worthy of particular notice; but as the following is attended with a very ſingular, and perhaps unparallelled Cir-

Circumſtance, I am induced, merely on this account, to give a ſhort Hiſtory of the following Fact.

M. E. aged 48, (in all other reſpects an healthy Woman) had been afflicted with the Symptoms of the Stone in the Bladder for about two Years, for which ſhe put herſelf under my Care. After having prepared her in the uſual manner, I proceeded to the Operation, but in a Method ſomewhat different from that generally practiſed, which is effected merely by a forcible Dilatation, and conſequent Laceration of the *Urethra*; but having almoſt always obſerved an Incontinence of Urine, in conſequence of this Method of Operating, for this reaſon, and from the Succeſs which I had ſome time ago met with in the Caſe of *M. B.* mentioned hereafter, from whom I had extracted an Excreſcence that was growing on the Inſide of the Bladder; I differed from the uſual Method of Operating, and cut the *Urethra* obliquely upwards on the right Side to about half its length, which I eaſily effected by introducing a ſmall Knife into the Groove of the Staff, and found very little force requiſite to the Introduction of the Gorget and

Forceps

Forceps into the Bladder, and in the Extraction of the Stone and piece of Bone.

UPON laying hold of the Stone, it broke, ſo that only a part of it, of the ſize a Pigeon's Egg, was extracted upon the firſt Introduction of the Forceps into the Bladder; upon introducing the Forceps a ſecond time, I extracted a ragged and irregular piece of Bone, weighing ſixteen Grains, which I have now in my Cuſtody.

BEFORE the Bone was waſhed and cleanſed, its Cavities appear'd filled, and covered with a Mixture of hairy and ſtony Particles; from whence I conjecture, that the bit of Bone probably was the *Nucleus* of the Stone.

NOTHING remarkable occurred during the Cure, but that the Patient ever ſince the ſecond Day after the Operation, was capable of retaining her Urine, and recovered perfectly in leſs than three Weeks after the Operation was performed.

SINCE the Performance of the preceding Operations, I have always followed the ſame Method of dividing a part of the *Urethra* in Females, previous to the Introduction of the Gorget, *&c.* and have found it to be much more eaſy to the Patient, leſs troubleſome

to

to the Operator, and more ſucceſsful than when performed by a forcible Dilatation of the *Urethra* without Inciſion.

CASE XXXVI.

A remarkable inſtance of four Rough Stones that were diſcovered in an human Urinary Bladder contrary to the received Opinion; and ſucceſsfully extracted from thence by the lateral Method of cutting for the Stone. Communicated to the Royal Society *and inſerted in their Tranſactions for the Year* 1759.

THE favourable Reception thoſe few Papers have met with from the *Royal Society*, which I have done myſelf the Honour of addreſſing to them, encourages me to take the liberty of offering the following Account to their Conſideration; and I am the more immediately induced to ſubmit this Paper to their peruſal, as the Fact hereafter related cannot be conſidered as a matter of mere Curioſity: Since it is probable, that the Inferences deduced from the Hiſtory of the ſubſequent Caſe, when

when properly attended to, may prove of the greateſt Conſequence to the future Eaſe and Health of ſuch unhappy Patients as labour under the like Misfortune, as well as be a means of preventing the Operator from falling into ſuch an Error as cannot fail of drawing an Imputation upon his Character in the Practice of one of the moſt capital, and difficult Undertakings in his Profeſſion.

IT is a Maxim layed down by the moſt judicious and beſt received Writers upon Operations in Surgery, that when the Surface of a Stone, which has been extracted from the Bladder, appears to be totally Rough, it amounts to a Proof that there is no other Stone accompanying it: But notwithſtanding I admit it is from Experience found, that this Obſervation is in general well grounded, it will nevertheleſs appear from the following Caſe that this Rule is not unacceptionable: For which reaſon it muſt doubtleſs be thought right that we ſhould not be determined from Circumſtances only; but on the contrary, that it is neceſſary for every Surgeon to take ſuch Methods during the Operation, as will enable him to judge with that degree of certainty,

tainty, without which he cannot be ennabled to do.

THE Methods I would recommend are theſe, that after the Extraction of a Stone from the Bladder, though the whole of its Surface be Rough, the Operator ſhould nevertheleſs introduce the Fore-finger of his left or right Hand through the Wound into the Cavity of the Bladder; by which means, if the Subject be under 12 or 14 Years of age, he will be ennabled to come in contact with every internal part of the Bladder; but if the Subject be an Adult, and of a corpulent Habit of Body, the Finger under theſe Circumſtances not being found ſufficiently long for that purpoſe, he muſt have recourſe to the uſe of a Female Catheter; or ſome other Inſtrument that is nearly ſtraight, quite ſmooth, and poliſhed, and of about nine or ten Inches long, which will ſerve the purpoſe equally well, if of a proper form and thickneſs.

THIS is the Method I have of late Years always made uſe of upon the like occaſions, without giving any great Pain to the Patient, or conſiderably retarding the Operation.

SINCE I have had an opportunity of making the following Obſervation, as well as a prior

Obſervation ſomething ſimilar to this, where two rough Stones were extracted by me a few Years ago from a young Man's Bladder of 15 Years of age (and which it may be remembered I have ſtated in a preceding Caſe) I cannot help ſuſpecting that there may have been Inſtances of one or more Stones being left behind in the Bladder at the time of operating, merely from the Operator's putting too great a Confidence in this general Rule: Which Suſpicion I am led into, from having known People who have undergone the Operation of Cutting for the Stone, relapſe into the ſame Diſorder in a ſhort time after the healing of their Wounds; attended with ſuch Symptoms as have obliged them to ſubmit to a ſecond Operation: When the Stone upon being extracted has appeared of ſo conſiderable a Size as to render it at leaſt very ſuſpicious, that this Stone muſt probably have been of a much longer growth than the ſhort time betwixt the two Operations could admit of.

THE Maxim layed down to us by Authors of a ſmooth and poliſhed Stone in the Bladder being never there alone, but always accompanied with one or more Stones of the ſame kind, I know no exception to; but if this Phænome-

Phænomenon ſhould ever occur, the ſtrict obſervance of that Rule delivered to us by judicious Writers in Surgery of always ſearching the Bladder under the like appearances, on preſumption of one or more Stones being left behind, cannot be accompanied with any future miſchief to the Patient, when cautiouſly executed by the Methods recommended above, and ſhould undoubtedly be always attended to. The ſmooth and poliſhed appearances of the Surfaces of human *Calculi* are univerſally ſuppoſed to ariſe from their rubbing againſt each other, whilſt they are confined in the Bladder, which may with reaſon be ſuppoſed to be the Caſe; but I confeſs this Inference is not quite ſatisfactory to me, ſince it is probabable, if this was the ſole Cauſe of their Smoothneſs, the ſame Effect would always be produced when attended with the ſame degree of Friction; but as this may be conſidered as a matter of mere Suggeſtion, I refer the Deciſion of the Point to thoſe of nicer Speculation, it being quite ſufficient for Practitioners to advance matters of Fact.

CASE XXXVII.

MR. *W. W.* a Gentleman Farmer of a corpulent Habit of Body, in the 46th Year of his age, now living in the Pariſh of *Udimore* within three Miles of *Rye* in *Suſſex*, was attacked about eight Years ago with ſevere Complaints in his Loins, accompanied with an incapacity of voiding his Urine without the aſſiſtance of proper Medicines, which were adminiſtered to him by a neighbouring Apothecary for that purpoſe.

THESE Medicines had the deſired Effect. They promoted a ſecretion, and an evacuation of Urine; the Urine was loaded with a conſiderable Quantity of gravelly Particles mixt with *Mucus* of a whitiſh Colour. In the ſpace of three Weeks he had perfectly recovered from this Attack, and continued well for near five Years afterwards without any return of his Complaint, except when he rode hard on Horſe-back, or drank more freely of ſtrong Liquors than uſual. At the expiration of five Years, he was ſeized with an acute Fever, of

which he recovered in a few Weeks. Very ſoon after his Recovery from this Illneſs, he began to complain of exceſſive Pain in voiding his Urine, or upon going to Stool; theſe Symptoms were ſo greatly encreaſed for many Months before he ſubmitted to the Operation, as to diſable him from Riding, from Walking, or from uſing any kind of Exerciſe without aggravating his Complaints: His Urine of late was continually and involuntarily flowing in ſmall Quantities from him. He complained of great Pain, and ſoreneſs in his Fundament, attended with a *Teneſmus*. This Account he delivered to me on the ſecond Day after the Operation; and at the ſame time very feelingly told me, that he had enjoyed but few and ſhort Intervals of Eaſe for the three laſt Years till ſince the Operation. Having firſt prepared him for the Operation in the manner I uſually do upon the like Occaſions; that is, by keeping the Patient upon an abſtemious Diet, a Week or ten Days before the Operation, by Bleeding if the Patient be Plethoric, by giving two or three Purges of Oil and Manna at two or three Days diſtance from each other, and an oily purging Clyſter the Night preceding the

Operation, or very early on the ſame Morning of the Operation. On the 30th of *January* 1758 I cut him at his own Houſe in *Suſſex*, and extracted from his Bladder the four rough Stones which I have now the Honour of exhibiting to the *Royal Society*: And which, at your Requeſt, I have cauſed to be Engraved, that this Memoir might be made more complete and uſeful than it otherwiſe would have been. The Surfaces of theſe four ſeveral Stones appear to be rough, and have not the leaſt marks of having rubbed againſt each other during their Confinement in the Bladder: But yet I conjecture this muſt have frequently been the Caſe, as there was no difficulty in embracing theſe *Calculi* with the Forceps, for had they been contained in different Cells or Pouches, as has ſometimes been obſerved from Diſſections; this Circumſtance, in all probability, would have rendered it impracticable for me to have ſo immediately got at them, if at all.

THE Forceps was introduced three times only into the Bladder for effecting the Extraction of the three firſt Stones, and only twice for the Extraction of the fourth Stone, beſides theſe four Stones which I have preſented to the

the *Society* for their Inſpection, I thought it not improper to produce at the ſame time ſome other human *Calculi* for their farther Satisfaction; each of which was found ſingle in the Urinary Bladders of different Subjects: The Surfaces of theſe Stones may be obſerved to be much ſmoother than the Surface of either of the four Stones that were extracted from Mr. *W*'s Bladder in the Operation I have juſt now recited; and therefore it was more reaſonable to expect to find each of theſe Stones accompanyed with one or more Stones in the ſame Bladder (according to the received Opinion) than it was to find more Stones than one in the Caſe of Mr. *W*. which has given riſe to this Obſervation: But as the Fact before us does ſufficiently ſhew the Impropriety and Danger of abſolutely determining from the Surfaces of ſuch extraneous Bodies, I think it needleſs to enlarge upon this Subject, to ſtrengthen thoſe Precautions ſo reaſonable to be attended to in this Operation: However, as I have already taken notice of the ſmooth and poliſhed Appearances of the Surfaces of ſuch Stones as are probably never found ſingle in the Bladder, I have produced two Stones of this kind that were extracted from one and the

ſame Bladder, to ſhew that theſe Stones do no more reſemble thoſe Stones of Mr. *W.* than a piece of poliſhed Marble can be ſaid to reſemble a rough Block of the ſame Species.

MR. *W*'s Wound was healed in ſeven Weeks after the Operation; ever ſince that time he has continued perfectly well.

REMARK.

IN the performance of the Operation upon Males for extracting the Stone out of the Bladder by the lateral Method of cutting, it has generally been advanced in favour of this Practice, that the lateral Method is preferable to that diſtinguiſhed by the name of the Old way, or *Marianus*'s, on account of the Inciſion being made near to the beginning of the *Urethra,* or Neck of the Bladder; by which means the Forceps, when introduced into the Bladder, is more eaſily and freely managed; and the Force requiſite for the Extraction of the Stone is leſs violent, from the Reſiſtance being diminiſhed in proportion to the ſize of the Wound, and openneſs of the Paſſage: And again, that all Wounds which are made with a ſharp Inſtrument, are leſs dangerous in themſelves, and more eaſily cured, than ſuch as are made by

by force, and laceration; for theſe approved Reaſons it was ſuppoſed by Mr. *Cheſelden*, when he firſt attempted to put this Method in practice, that if the Wound could be made ſtill lower down, on the other ſide of the *Proſtate* Gland, into the Bladder itſelf, there would ſtill be leſs Violence required in the extraction of the Stone or Stones, and the Operation might be more readily executed; which he contrived to do, by firſt injecting the Bladder with Water; and his Expectations were fully anſwered in theſe particulars; but after having tried this Method upon ten Patients, who, for ſome Days after the Operations, ſeemed out of danger, he found the Urine which came out of the Bladder, by continually lodging upon the cellular Membrane on the outſide of the *Rectum*, made fœtid Ulcers, attended with a vaſt diſcharge of ſtinking Matter; and from this Cauſe, Mr. *Cheſelden* ſays, he loſt four Patients out of ten. For theſe Reaſons, he diſcarded the uſe of Injections, and purſued that Method which is now followed in our Hoſpitals; and for which we are altogether indebted to the Ingenuity and Labours of this great Man.

SINCE

SINCE Mr. *Cheſelden*'s time there have been various Inſtruments invented and employed to the ſame purpoſes he intended: The Inſtrument which I have a few times made uſe of is the Gorget that is made to cut with its right Side or Edge.

IN thoſe Trials which I have made with this Inſtrument, I found it very well anſwered the Deſign of dividing the *Proſtate* Gland and Neck of the Bladder, and I thought the Extraction of the Stones was made more eaſy by theſe means; but in two Subjects amongſt the few upon whom I uſed the cutting Gorget, I at length diſcovered that the Urine did not eſcape ſo readily out of the Wound as could have been wiſhed; and at the end of about ſixteen or ſeventeen Days I obſerved the *Inteſtinum Rectum* was in part deſtroyed in both theſe Inſtances; that a part of the Excrement began to paſs through the Wound, and the Urine which diſcharged itſelf into the *Rectum* from the Communication that was now formed betwixt the Bladder and Gut produced almoſt conſtant Gripings, a *Diarrhœa*, and a conſiderable waſting of the whole Body; however, both theſe Patients perfectly recovered, but their Wounds were not healed for ſome Months

Months afterwards, and that with a great deal of Difficulty: From hence I judged that although this might juſtly be conſidered as a very ingenious Contrivance, and undoubtedly an uſeful Inſtrument ſo far as related to the Enlargement of the internal Extent of the Inciſion, yet the Inconveniencies following this Method were ſuch as have prejudiced me in diſfavour of the farther uſe of it; and if I miſtake not, the Knife alone can always be uſed to ſufficient Advantage, with which the Inciſion may be made large enough and low enough to admit of the Extraction of a Stone of ten or eleven Ounces weight, which are very uncommon Sizes, and ſuch as have not happened to me to ſee more than two or three Inſtances of in the courſe of twenty Years Experience in an Hoſpital. Theſe Operations required no other Inſtrument than the Knife for making the Inciſions: However, I own it is poſſible that the Inconveniencies I have attributed to the cutting Gorget may not have happened to others, and that they might even not have happened in either of the two Caſes I have taken the liberty of mentioning, had not the Patients been neceſſarily confined to their Beds for more than a Fortnight after the Operation; ſince

ſince if it had been in their Power to have ſet upright the Wound would have become depending, and the Urine of courſe have been more readily diſcharged than it could be when lying in Bed.

BUT notwithſtanding I have objected to the uſe of the cutting Gorget in the Operation for the Stone upon Males, I am very certain from thoſe Trials I have made with in Females, this Inſtrument will be found uſeful and advantageous to divide the *Urethra* with, previous to the Extraction of the Stone in that Sex, eſpecially when the Stone proves to be large; but even in this Operation, I muſt own, from the ſeveral Experiments which I have made with the cutting Gorget, I think a ſmall inciſion Knife is a more manageable, as well as a leſs painful Inſtrument than the cutting Gorget for this purpoſe, as there is no neceſſity for dividing the whole length of the *Urethra*, but only the extremity of it, through the *Corpus Glandoſum Urethræ*, which is naturally more contracted than any other part of this Paſſage that is higher up, or nearer to the Neck of the Bladder.

CASE

ST. MARY'S HOSPITAL
RADFORD LIBRARY
MANCHESTER.









This Plate *is an exact representation of the Sizes and external appearances of the four rough Stones described in the preceding pages.*

CASE XXXVIII.

Of a Retention of Urine occaſioned by the Size of the Hymen.

IT has been obſerved by many Writers, that a ſtraitened Prepuce in Males penetrated by ſo ſmall a Hole, as to prevent a free Diſcharge of the Urine, conveyed in a full Stream through the *Urethra*, is often productive of ſuch Symptoms as are ſimilar to thoſe ariſing from a Stone in the Bladder; which are probably occaſioned by a Diſtention of the Prepuce, and an Irritation of its internal Part, and the Glans. The removal of theſe Complaints depends upon a longitudinal Diviſion of the Prepuce, or Circumciſion, by which means a free Iſſue is procured to the Urine. But I don't remember to have read any Obſervation of a Diſeaſe of the like kind happening to Females, and producing the ſame Symptoms, from a preternatural Formation of their Parts.

IN the Year 1740, I was conſulted in the Caſe of a little Girl about three Years old, who

who had laboured under ſuch violent Symptoms in voiding her Urine ever ſince her birth, as to make it ſuſpected by her Phyſician, that ſhe had a Stone in her Bladder. Upon enquiry, I was informed that her Urine came away by Drops, that ſhe was inclined to put her Hand to the *Pudendum* when ſhe made Water, and that ſhe could not help crying, and ſtamping with her Feet, merely from the Pain. Theſe Symptoms ſo nearly reſembled thoſe of the Stone, that I thought proper to propoſe the paſſing a Staff into the Bladder, that we might be ſatisfied whether there was a Stone, or any other Diſeaſe of the *Urethra*, or Bladder; but upon endeavouring to do it, I obſerved the *Urethra* was at leaſt half covered over with a continuation of the *Hymen*, which appeared imperforated; for this reaſon, I could with difficulty execute my Deſign. However, I effected the Introduction of the Inſtrument into the Bladder, without uſing much Violence, but there was no Stone, or any other præternatural appearance to be felt in that, or its Paſſage. Seeing this, I gave my Opinion that the Difficulties and Pains which aroſe in diſcharging the Urine, probably proceeded from the Size and Situation of this Membrane; which

which I recommended as neceſſary to be divided. The Operation was complied with; and I accordingly proceeded in the following manner. The Infant being placed upon her Back, and properly confined upon a Table of a convenient height, in the ſame manner as is done in the Operation for the Stone; I divided the Membrane with a ſmall Knife, by making a longitudinal Inciſion, and the Patient was cured in a few Days, by anointing the Parts with Sweet-Oil, aſſiſted with an emollient Fomentation.

REMARK.

IF the Circumſtances of a Difficulty in making Water had not occurred, ſo as to have made it neceſſary for the Parents to ſeek for Relief during this Infant ſtate, it muſt have happened that at the time of Puberty, the Menſes could not have been voided, ſo that the Surgeon muſt have been then obliged to have divided this Membrane, to have given iſſue to what muſt have been otherwiſe confined; as has been known to have been ſometimes the Caſe, where this Membrane has been found imperforated in Adultneſs.

CASE

CASE XXXIX.

Of an Amputation of the Penis.

T. C. aged 63, about four Months ago perceived a ſmall Pimple to ariſe upon the *Glans Penis*, which continued without Pain for ſix Weeks. At the end of which time it grew painful, and increaſed in ſize, which obliged him to apply to a neighbouring Surgeon for Relief. The firſt Applications made uſe of to the Part, were *emollient Cataplaſms*, which were continued for a Fortnight, but without any other Effect than keeping the Part eaſy, and preventing an increaſe of the Symptoms. Seeing this, he was induced to apply a *Cauſtic* to the Excreſcence, which brought on exceſſive Pain, and produced an Ulceration; and from that time the Tumour began to grow conſiderably worſe.

ON the 3d of *Auguſt* 1749, he was admitted into the Hoſpital. Upon Examination the whole *Penis* was found cancerous, and conſiderably enlarged to within about an Inch and

and a half of the *Abdomen*, attended with exceſſive Pain.

IT had for the laſt four Weeks diſcharged ſo greatly, as to weaken him conſiderably, and had bled at times, but not very profuſely. On the 7th Inſtant it was amputated near the *Abdomen*, in the following manner.

A TOURNIQUET was applied on the *Penis*, as near the *Abdomen* as poſſible, and an Inciſion was made firſt through the Integuments only, which were drawn back, and then a ſecond Inciſion was made as near as poſſible to the Integuments through the *Corpora cavernoſa*; there was no Inſtrument introduced into the *Urethra*, nor was there much difficulty in ſtopping the *Hæmorrhage*, which was effected by the Needle and Ligature.

A FEW Hours after the Operation, he urin'd freely, and from this time continued to go on very well till he recovered. But in a few Months afterwards he relapſed into the ſame Diſorder, and died.

A SIMILAR Caſe to this is mentioned by *Ruyſch* in his 30th *Obſervation*; but there the Operation is deſcribed as being performed in a very different manner, as follows: A Catheter was introduced through the *Urethra* into the

Bladder, and confined by a proper Ligature from ſlipping out; after this, a Ligature was made very tight upon the *Penis* above the diſeaſed Part; the next Day, a ſecond Ligature was applied upon the firſt, and in five Days after, the *Penis* was amputated with a Knife in the ſame Part, which had been almoſt wore through by the Ligatures.

THIS Method was made uſe of, in order to prevent an *Hæmorrhage*; for he obſerves, that by this means, the Part became almoſt mortified off, and no bleeding enſued. But as this Method muſt be infinitely more painful than what attends the Operation, when performed by Inciſion only, I think there can be no doubt which of the two is preferable. Mr. *Ruyſch* obſerves, that the Patient did well, and continued ſo. He ſays, that part of the *Penis* which was left behind drew quite back into the *Abdomen*, ſo that he was obliged to make uſe of an ivory Pipe, which was occaſionally introduced through the *Urethra* into the Bladder, to prevent the Inconvenience of being wetted by the Urine.

RE-

REMARK.

IT is worth obſerving, what different Effects were produced by the Emollient and Cauſtic Applications in the preceding Caſe. The firſt it appears, kept the Parts eaſy, and prevented the Diſeaſe from increaſing, though it had no farther tendency to the Cure of the Wound. But the latter, which was painful, immediately aggravated the Symptoms, and conſiderably increaſed the Inflammation and Ulceration. This Caſe is one of the many, which ſhews the Impropriety of all painful Applications to Ulcers that are attended with the like Malignancy; and at the ſame time the great Advantages of ſuch as are emollient and relaxing.

FROM the Event of *Ruyſch*'s Caſe, we may learn the poſſibility of Succeſs after the like Operation; though it muſt be acknowledged, that the Inſtances are rare where the Patient does not relapſe into the ſame Diſeaſe.

CASE XL.

Of the good Effect of medicated Bougies, in Diſeaſes of the Penis *and* Scrotum.

P. E. in *Auguſt*, 1731, contracted a Clap, which he neglected till the *March* following, when there appeared a Swelling in the *Scrotum*, which ſuppurated, and was opened by Inciſion. He was at the ſame time put under a Courſe of Phyſic; but notwithſtanding this Treatment, ſoon afterwards there appeared a ſecond Swelling on the *Scrotum*, which ſuppurated, and was likewiſe opened; his Urine iſſued through the Wound, and continued to do ſo for four Months, when the Wound healed up.

THERE was a purulent Diſcharge from the *Penis* the whole time, attended with frequent Inclinations to Urine, which came away ſometimes by Drops, at other times in a ſmall twiſted Stream tinged with Blood, and attended with exceſſive Pain. The Patient remained pretty nearly in this State, till *Auguſt* 1747, when he perceived a Swelling to ariſe in *Perinæo:* This obliged

obliged him to apply for further Advice. The Tumour ſuppurated, and was opened by Inciſion, and the Patient was ſalivated. But notwithſtanding all proper Care having being taken of the Wound, it remained fiſtulous.

HE was admitted into the Hoſpital, the firſt of *December* 1748. Upon Examination, I diſcovered two Fiſtulas in *Perinæo*, and two more in the *Scrotum*, through which the greateſt part of the Patient's Urine was diſcharged. The *Scrotum* was enlarged to four times its natural ſize, and appeared anaſarcous.

THE whole *Penis* was diſtorted, and its Integuments extremely thickened. Upon introducing a Probe into the *Urethra*, I diſcovered an Obſtruction about an Inch and a half diſtant from its hither Extremity, which I could not break through. The Day following, I introduced a medicated Candle, which was kept for ſome Hours in contact with the Obſtruction; it produced a conſiderable Diſcharge of Matter; the Bougie was continued for ſome Hours every Day for about a Week, when the Obſtruction gave way. A little farther up the *Urethra*, there was a ſecond Obſtruction, this was removed in a few Days by the ſame means. After having ſurmounted theſe

two Difficulties, I met with a third near the entrance into the Bladder. This Obſtruction in ten or twelve Days was removed by the ſame Application; ſo that I could now introduce a ſmall Bougie quite into the Bladder. The Bougies firſt uſed were very ſmall, not larger than a common knitting Needle; but their Sizes were gradually encreaſed, till I could eaſily introduce thoſe of the Size of a Gooſe-quill.

FROM the time the Bougie was introduced into the Bladder the Fiſtulas grew better, the Tumour of the *Scrotum* gradually ſubſided, and in about five Months the Patient was perfectly cured, the Parts appearing in their natural State. The Swelling of the *Scrotum* was formed in conſequence of the Urine having inſinuated itſelf into the *cellular Membrane* of that part. I ſaw the Patient at the end of ſeveral Years after his Cure, he was then perfectly well, and had not perceived the leaſt return of his former Diſorder. Before he left the Hoſpital he could Urine in as full and large a Stream as though he had never been diſeaſed, and was well in every other reſpect.

THE Inference I would draw from the preceding Caſe is to prove the great uſefulneſs of Mr. *Daran*'s Method of treating theſe Diſeaſes,

and

and at the ſame time to ſhew, that it is undoubtedly certain that whatever Applications will produce a Diſcharge, and gradual Diſtention of the Part, muſt probably be attended with nearly the ſame Succeſs, if continued a proper time. The Compoſition of the Bougies made uſe of in this extraordinary Caſe, was, one Ounce of old *Diachylon*, and two Drachms of *Mucilage* Plaiſter, ſlowly melted together; to which was added a Drachm and half of white *Precipitate*, which being ſtirred together, and afterwards ſpread upon Rag, was cut into ſlips, and rolled up in a conical Form for uſe.

I HAVE ſeveral times ſince then made uſe of the ſame Plaiſter, with an addition of one Drachm and half, or two Drachms of *Calomel*, or red *Precipitate* finely levigated and ſtirred into it, in a variety of Caſes with equal benefit; and could never diſcover any material Difference, either in their Efficacy, or manner of Operating.

CASE XLI.

Of the Hydrocele *of the* Tunica Vaginalis.

THE Teſticles are each of them immediately and ſeparately inveſted with a ſtrong and ſenſible Membrane, which from its Colour is called by Anatomiſts the *Tunica Albuginea*. Theſe Coats adhere ſo firmly to the Teſticles, that they cannot eaſily be parted from them.

FROM the Diſtention and Inflammation of the *Tunica Albuginea*, it is probable that the principal part of the Pain proceeds in an Enlargement of theſe Glands in an acute Diſeaſe, or a ſchirrous State of them.

NEXT to and immediately above the *Tunica Albuginea*, is ſituated a ſmall Bag called the *Tunica Vaginalis*, which in Infancy communicates with the Cavity of the *Abdomen*: But in Adults, the Cavity of the *Tunica Vaginalis* is divided from the Cavity of the *Abdomen* by the Adheſion of the internal *Lamella* of the *Tunica Vaginalis* to the ſpermatic Chord below the Perforations of the Abdominal Muſcles, which

which by this means forms a *Septum*, unleſs that *Septum* be deſtroyed in conſequence of an *Hernia Scrotalis*, as is ſometimes known to happen.

THE *Tunica Vaginalis* looſely inveſts, and contains the *Tunica Albuginea* and Teſticle; and is a Proceſs of the *Peritonæum*.

THE internal Surface of the *Tunica Vaginalis* is naturally ſmooth, and together with the external ſmooth Surface of the *Tunica Albuginea* is moiſtened, and lubricated with a lymphatic Fluid. This Moiſture ſerves to facilitate their Motions, and prevents their adhering together. In a ſound State of the Veſſels, the Liquor of the *Tunica Vaginalis* is ſo ſmall in Quantity, as, in general, to have the appearance only of beſmearing the Surfaces of both theſe Coats; but in a diſeaſed State of the Veſſels proceeding either from a preternatural Relaxation, or Rupture of the *Vaſa exhalantia* of the *Tunica Vaginalis*, or from an inability of the *Vaſa inhalantia* or *Abſorbentia* to perform their uſual Functions, or perhaps from both theſe Cauſes, this Fluid becomes gradually accumulated in ſuch conſiderable Quantities as in ſome inſtances to amount to ſeveral Pounds weight; which, by diſtending this Coat, the thin fleſhy Coat lying immediately upon it (called

(called by Anatomiſts the *Cremaſter* Muſcle) together with the *Scrotum*, forms a conſiderable Tumour, or Enlargement, known by the terms *Hydrocele* and *Hernia Aquoſa*.

IN order to enable Practitioners to diſtinguiſh this kind of Diſeaſe from any other Tumour to which the Coats of the Teſticles, or the Teſticles themſelves are liable, Authors of the greateſt Reputation have deſcribed a few particular Symptoms (amongſt many others) which they have ſuppoſed to be certain Marks of this Diſtemper; to wit, the Tranſparency of the Tumour, and the freedom from Pain in the beginning of this Complaint, or before the Swelling has arrived to any conſiderable Size; and even at the time when the Tumour is become exceedingly large: But though it muſt be allowed, that theſe are ſome of the moſt certain Indications that can be preſcribed for forming a true Judgment of the Nature of the Diſeaſe, they are by no means infallible ones; there being in Nature ſuch conſiderable *Inteſtinal Hernias*, and Enlargements of the Teſticles themſelves as do exactly correſpond in their principal Symptoms with thoſe attendant upon an *Hydrocele*, or *Hernia Aquoſa*; to wit, in Form, Size, Tranſparency and Exemption from Pain, &c.

&c. an inſtance of which laſt Diſeaſe I have lately had under my Care, where the Tumour of the Teſticle was large, ſmooth, uniformly diſtended, elaſtic and terminated a little before its arrival at the *Abdomen*. The Patient had no Pain in the Part, nor had he any other inconvenience ariſing from the Swelling, but that proceeding from its Size and Weight upon uſing much Exerciſe. The Man was of a good Habit of Body, and free from any other Diſeaſe.

UPON holding a lighted Candle on one ſide of the *Scrotum* in a dark place, and looking at the Tumour on the other ſide, a perfect Tranſparency was perceptible. From theſe appearances ſo common in an *Hydrocele* of the *Tunica Vaginalis*, where the Diſeaſe is not accompanied with a preternatural thickneſs of the Coats, or a Turbidneſs of the contained Fluid, it would have been an eaſy matter to have been miſtaken in the Nature of this Complaint, if upon a careful Examination of the Parts, it had not appeared, that no Fluctuation could be diſcovered by the Feel; which I am convinced ſometimes requires the greateſt Accuracy, and Judgment to determine abſolutely.

HOWEVER,

HOWEVER, that I might not give a positive Opinion of the Nature of the Disease, without making a more certain Enquiry; after having for several Weeks used Fomentations, Mercurial Frictions, and repellent Cataplasms to the part, joined with brisk Purges, which were given at proper Intervals, and Emetics too without any effect, I resolved with the consent of the Patient to puncture the part, which I did with a Lancet on the bottom of the Tumour, but there was not the least discharge of Water, or any other kind of Fluid from this Aperture; nor was the Consequence of the Puncture any thing worse than a slight Inflammation of the Edges of the Wound, which Inflammation was removed in a few Days by Rest, and the Application of emollient Cataplasms.

THE Patient continued under my Inspection for some Weeks after these several Trials had been made to remove the Disorder; but the Tumour remained in the same state it was in, when I first saw him. Upon dismissing the Man I advised the Application of a Bag-truss, with which the Part might be suspended, and protected from external Injuries.

IN regard to that Maxim delivered to us, of there being no Pain in the *Hydrocele*, when the

Tumour is in its beginning, and the Coats of the Teſticle are not much diſtended, though I am convinced from many Obſervations that this Maxim is generally true, yet I have known a few Exceptions to this Rule; and have ſeen inſtances, where from the Enlargement which has not been great, and the painful Senſations of the part (probably ariſing from the preſſure made againſt the *Tunica Albuginea* and the Teſticle itſelf; on account of the *Tunica Vaginalis* reſiſting any farther diſtention) it has been thought adviſeable to extirpate the Teſticle on preſumption of that being the part aggrieved; when, upon making an Inciſion through the Coats of the Teſticle, a quantity of Lymph has ſuddenly guſhed out, the Teſticle has appeared of its natural ſize, and Complexion: and the true Cauſe of the Complaint has from this Accident ſhewed itſelf, and happily terminated in an abſolute Cure without the removal of the Teſticle.

FOR theſe Reaſons I would adviſe a Puncture ſhould be made with a Lancet in Tumours of theſe parts previous to a determination upon the Operation of Caſtration, where the Diſeaſe is at all doubtful; which muſt often be the Caſe with thoſe Surgeons whoſe Experience

perience does not entitle them to Opportunities of ſeeing many Diſeaſes of this kind; and this Practice, I think, is the more ſtrongly to be recommended, as it is not attended with much Pain, nor can be any impediment to a procedure to Caſtration, ſhould that Operation afterwards be found neceſſary.

IN regard to the Operation of Caſtration, as I have nothing particular to ſay upon the Subject of thoſe Diſeaſes which require the extirpation of the Teſticle, but what immediately relates to the Operation itſelf, I think it quite ſufficient to obſerve, that in the ſeveral Subjects whom I have of late Years caſtrated, I have not been under a neceſſity of making any Ligature upon the Spermatic Chord, nor even upon the Spermatic Artery. By Experience, I have found this proceſs of the Operation is unneceſſary; and as it is by much the moſt painful part of the Operation, undoubtedly it ſhould be omitted.

IF we reflect upon the ſmallneſs of the *Diameter* of the Spermatic Artery, the diſtance at which it ariſes from the Teſticle (in general from the *Aorta deſcendens inferior* a little below the *Renal* or *Emulgent* Artery, but ſometimes from the *Emulgent* Artery itſelf) we

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muſt neceſſarily conclude that in a natural ſtate of this Veſſel, the quantity of Blood which is conveyed to the Teſticle in a ſhort time can be but ſmall; and therefore the riſque of dividing the Spermatic Chord, (without firſt having tied it with a double Ligature which is the common ſevere practice) can be none at all, even ſuppoſing it ſhould afterwards be thought neceſſary to tye the Spermatic Artery, which is the only part of the Chord that can at any time require this Method of treatment; and this may juſt as eaſily be effected, and with as little hazard as the tying an Artery of a Finger, after the Amputation of that part; which no Surgeon thinks of doing till the Finger is removed from the Hand.

IF it be ſaid that the Spermatic Veſſels in a diſeaſed State of theſe Parts are ſometimes greatly enlarged, and therefore upon a diviſion of them the *Hæmorrhage* muſt be greater than it would be in a natural ſtate of the Spermatic Chord; in anſwer to this, I reply, that under theſe Circumſtances, the Operation ſhould never be undertaken; that Argument therefore will in courſe be of no weight.

THE only Method I have of late Years made uſe of for ſtaunching the Blood after

the

the Extirpation of the Teſticle is by making a gentle Compreſſion of the Veſſels for a few Minutes betwixt my Thumb and Fore-finger; afterwards the Application of a bit of Lint to the Mouths of the Veſſels has effectually anſwered the Intention, without giving the leaſt degree of Pain, which ſhould be avoided as much as poſſible in this, and every other Operation in Surgery, where it can be done with ſafety. The Artery of the *Septum Scroti*, as well as thoſe other ramifications of the *Pudicæ Internæ* and *Gluteæ*, (which are Branches of the Internal *Iliac*, or *Hypogaſtric* Arteries, and are beſtowed upon the *Scrotum*) in ſome inſtances become a good deal enlarged and require ſome pains and addreſs in reſtraining the *Hæmorrhage* proceeding from them, upon their being divided in this Operation; but as the Method of ſtopping the bleeding in theſe Veſſels muſt be the ſame as is practiſed in other Arteries of the ſame ſize, it is unneceſſary to ſay any more upon the Subject in this place.

CASE

CASE XLII.

Of an Hydrocele.

J. *M.* aged 63, in the beginning of the Year 1749, about eight Months before he applied to me, received a Blow upon the *Scrotum*, which in a few Weeks afterwards began to ſwell, and continued to increaſe from this time without pain, till the 27th of *September* following, when he was admitted into the Hoſpital. The Diſorder appeared to be an *Hydrocele*, or Dropſy of the *Tunica Vaginalis*, which upon being tapped diſcharged about ten Ounces of clear Water. About a Week after the Operation, the Water had collected nearly to as great a Quantity as before; upon which, I performed the Operation a ſecond Time. After the whole of the Water was evacuated, I introduced a ſmall Spunge Tent into the Orifice, which was continued for twenty four Hours without producing any Pain, or viſible effect. Seeing this, I renewed the Introduction of the Tent, which remained in the Wound till the third Day. During this time,

there was no Diſcharge at all. Upon Examination, the *Scrotum* appeared ſomewhat hardened and inflamed; on which account the Tent was omitted, and a Pultice of Bread and Milk applied to the Part. On the fourth Day, a ſmall quantity of Matter oozed through the Orifice, the Diſcharge increaſed conſiderably for ten Days, when there appeared a ſmall Abſceſs on one ſide of the Orifice, the Abſceſs, upon being opened, diſcharged about an Ounce of Matter; from this time, the Diſcharge decreaſed, and continued to do ſo till the Wound was healed, which was in a few Days afterwards. The Coats of the Teſticle, and Teſticle itſelf, formed an Adheſion with each other. It is obſervable, that the Pain and Fever which attended the Cure were ſo trifling, as rendered it unneceſſary for the Patient to keep his Bed longer than two Days: This in all probability, was owing to the gentle and gradual Action of the Tent upon the *Tunica Vaginalis.*

FROM the Succeſs that attended this Method of Operating in the preceding Inſtance, I have been induced to perform the Operation ſeveral times ſince in the ſame manner; moſt of which Operations have been attended with equal Lenity and Benefit.

CASE

CASE XLIII.

Remark on the Hydrocele.

FOR the Relief of thoſe who labour under this Infirmity, there are two Methods of treatment propoſed; the one diſtinguiſhed by the Palliative Method of Cure, the other by the Radical Method of Cure. The firſt, called the Palliative Method of Cure, is the making a very ſmall Opening into the moſt depending part of the Swelling with a Lancet; which Orifice muſt be cautiouſly kept open with the blunt end of a Probe (if neceſſary) till the whole of the Fluid is evacuated; obſerving at the ſame time to preſs the Tumour gently downwards to aſſiſt in the Expulſion of the Lymph; If a ſmall Trocar ſhould be preferred to the Lancet for making the Aperture into the Tumour, this Inſtrument will anſwer the purpoſe without the Aſſiſtance of a Probe. There is ſeldom required any other application to the Orifice than a bit of dry Lint, or a bit of Lint ſpread with ſome cooling Ointment, which muſt be ſecured upon the part

with a piece of adhesive Plaister: But if the Patient will admit of the Application of a Bag Truss to the *Scrotum*, it will be found very useful by supporting the part, and protecting it from external Accidents in the exercises of Walking, and riding; and will likewise be a means of preventing the Disorder from returning so speedily, as it otherwise probably would do.

IT sometimes happens in bad Habits of Body, from roughly squeezing the parts during the evacuation of the Water, or from the *Tunica Vaginalis*, and Testicle itself, being irritated by the introduction of the Probe through the Orifice of the Coats that an Inflammation, Abscess and Fever, preceded by considerable Pain, have followed this Method of Treatment; in which Case, the Tumour becomes very large, and hard; and requires great Care, and Judgment in the management of it: Under these Circumstances of the Disorder, the part must be treated with Fomentations, Emollient and Suppurative Cataplasms; the Patient must be confined to his Bed, be made to live upon Spoonmeats of the most innocent kinds, such as Panado, thin Milk-pottage, Sagoe, *&c.* and to drink very freely of Barly-water, with or without

out Lemon Juice; or any other diluting Liquor that may be more agreeable to the Patient's Palate; his Body muſt be kept open with Clyſters; and if the Fever runs high and is attended with great reſtleſſneſs the uſe of the Cordial Medicines will be found neceſſary: When the Tumour and Inflammation are ſo far advanced as to produce an evident Fluctuation, the Swelling muſt be opened on that part where the Integuments appear moſt ſoft and yielding to the Touch; obſerving to make your Inciſion the whole length of the diſeaſed Skin: Should the Integuments be very thin and much diſcoloured, a bit of them muſt be removed by cutting it away.

IN opening theſe Abſceſſes, I have obſerved not only a conſiderable Quantity of Matter depoſited in the *Tunica Vaginalis*, and Cellular Membrane of the *Scrotum*, but after the Matter has been diſcharged, I have ſometimes preſſed out, from the bottom of the *Tunica Vaginalis* a conſiderable quantity of Lymph, which I have found ſo inſpiſſated as to reſemble cold Calves Foot Jelly.

THE ſecond Method of treating this ſpecies of Tumour, called the radical Cure, is the making a large Opening into the Body of the

Tumour by Inciſion, or Cauſtic: But the practice by Inciſion, in my Opinion, is the moſt adviſeable of the two; becauſe the Inciſion is made in a Moment, is much leſs painful than the Application of the Cauſtic; and the Cure at leaſt as certain.

THE Method for performing the Operation by Inciſion is this.

THE Patient being ſeated upon a Chair or a Stool, on the ſide of his Bed, on the end of a Table of a convenient Height, or what is ſtill more convenient, the Patient may ſtand upright till the Inciſion is made, the Operator muſt then ſupport the Tumour with his left Hand, and with a round-edged Kife, ſuch as is uſed in the Operation of cutting for the Stone, muſt at once divide the Integuments, the *Cremaſter* Muſcle, and the *Tunica Vaginalis* the whole length of the Swelling; beginning the Inciſion from above, by which means the Contents will immediately be diſcharged. If the *Tunica Vaginalis* is become ſtiff like Parchment, as I have ſometimes obſerved it to be, the Edges of this Membrane will not contract and ſubſide with the Integuments; but a part of it on one Side or both will be left projecting out; if that be the Caſe,

ſo

ſo much of the *Tunica Vaginalis* muſt be cut away, as is raiſed above the Edges of the divided *Scrotum*; but if there be no projection of this Coat, I would not adviſe any part of it to be diſſected out, ſince this Method will certainly render the Operation more painful, tedious, and hazardous. I once knew an Inſtance of a Patient who had the appearance of good health, that underwent the Operation of having almoſt the whole of the *Tunica Vaginalis* extirpated for the the radical Cure of this Diſeaſe (which is the only Inſtance I ever ſaw wherein it was attempted) in conſequence of this Operation, the Patient was ſeized with an acute Fever, of which he died: For this reaſon, as well as becauſe I never yet have ſeen any fatal Conſequences ariſing from the Method I have propoſed, I would adviſe, that the Exciſion of the *Tunica Vaginalis* ſhould never be attempted, and that the Method of opening the Swelling by a large Inciſion ſhould only be practiſed upon thoſe who are of a good Habit of Body, who have not exceeded the middle ſtage of Life, and even in them not till the Method I have propoſed in the Caſe of *J. M.* has been tryed, and found unequal to the Deſign.

CASE XLIV.

Of a Tumour growing on the Inſide of the Bladder, ſucceſsfully extirpated. Inſerted in the Philoſoph. Tranſact. *for the Months of* April, May, June, *and* July 1750, *printed* Anno 1751.

AN Excreſcence, or Tumour ariſing from the internal Coat of the Bladder, is a Diſeaſe, though not very common, yet ſufficiently known to the curious in Phyſic and Surgery. But I believe that hitherto, no one hath attempted the Cure of this Diſorder by Extirpation.

NOR indeed can it be ſuppoſed that the Inſtances are frequent, where the Operation is practicable: But as it is notorious from the Hiſtory of Phyſic and Surgery, that ſeveral Diſorders which were formerly unobſerved, have been found to occur frequently, after their Nature has been once diſcovered and exactly deſcribed, I flatter myſelf, the publication of this Account, may poſſibly throw ſome light on the preſent Subject.

M. B.

M. B. aged 23, on the 24th of *June* 1747, ſtrained herſelf, by endeavouring to lift a great Weight; ſhe was immediately ſeized with a Pain in the Small of her Back, and a total Suppreſſion of Urine; which Symptoms, notwithſtanding the ſeveral Methods uſed for her Relief, continued till the 29th of the ſame Month; when an eminent Phyſician, and Man-midwife was called to her Aſſiſtance, who drew off her Urine with the Catheter.

DURING the Suppreſſion, ſhe was ſeized with an acute Fever, and for eighteen or twenty Hours before her Urine was drawn off, ſhe diſcharged by the Mouth a great quantity of ſaltiſh Water tinged with Blood; which, upon lying down, flowed in ſo great Quantities as to threaten Suffocation.

IN *April* 1750, ſhe applied to me. Upon enquiry, I learnt ſhe never had been able, from the moment of the Accident, to void a Drop of Urine without the Aſſiſtance of the Catheter, which had been ever ſince made uſe of two or three times every twenty-four Hours; that ſhe was in continual pain, and had lately been much weakened, by having ſeveral times loſt conſiderable Quantities of Blood, occaſioned by the Force made uſe of,

for

for the Introduction of that Inſtrument into the Bladder. Upon examining her with my Fore-finger, which I introduced with great difficulty through the *Meatus Urinarius*, I diſcovered a conſiderable Tumour, which ſeemed to be of a fleſhy Subſtance, and took its riſe from the lower part of the Bladder near its Neck; the Extent of which I could with difficulty reach. I obſerved it to protrude a little way out of the *Meatus Urinarius* upon ſtraining to make water when the Bladder was full; but upon ceaſing to ſtrain, it preſently returned.

IT had preſerved pretty nearly the ſame Appearance ever ſince it was firſt taken notice of; and about eighteen Months ago, a ſmall Inciſion was made into it by a Surgeon, on preſumption of its containing a Fluid, but without any effect.

HAVING firſt prepared her, as before the Operation for the Stone, that is, by giving a gentle Purge on the Day preceding the Operation, and an emollient purgative Clyſter a few Hours before I operated, the *Rectum* by this means became emptied, and conſequently did not make ſo great a degree of Preſſure upon the inferior part and neck of the Bladder, as it would otherwiſe have done; which gave

me

me an Opportunity of executing my Deſign with much leſs difficulty than I ſhould probably have met with in the Performance of the Operation, had I attempted it without this preparation.

WHEN this was done, I proceeded to the Extirpation of the Tumour, which I effected in the following manner.

WHEN her Bladder was full, I ordered her to ſtrain as though ſhe was going to make water; upon which, I perceived the Tumour to protrude a little, this, I effectually ſecured from returning into the Bladder, by the help of a crooked Needle and Ligature, which I paſſed through the Tumour in different Directions, and endeavoured to draw it out through the *Meatus Urinarius*, but could not effect it by reaſon of its Largeneſs.

SEEING this, I dilated the *Meatus Urinarius* on the right ſide, by cutting it upwards about half way towards the Neck of the Bladder; when, by pulling the Tumour forwards, I had ſufficient room for tying it with a Ligature paſſed round its Baſis, which was very large.

FOR the three firſt Days after the Operation ſhe complained of a good deal of pain in the *Abdomen*.

ON

ON the ſixth Day after the Ligature was made, the Tumour dropt off.

FROM the firſt Day of the Operation ſhe voided her Urine without any aſſiſtance, and is now perfectly well in every reſpect.

THE Size of the Tumour was nearly equal to a Turkey's Egg, and ſomething like to it in ſhape.

CASE XLV.

A remarkable Inſtance of two Excreſcences of the Urethra, *ſucceſsfully extirpated.*

THE urinary Paſſages of Females, as well as Males, are incident to ſome Diſorders, which are not to be cured or relieved but by ſurgical Operations. Theſe Diſorders in Males proceed from different Cauſes, which are generally to be accounted for from a previous venereal Affection, or the frequent paſſage of gravelly or ſtony Particles through the *Urethra*, though it is certain that they ſometimes happen without any accountable Cauſe.

IT ſeems to have been a matter of diſpute amongſt Surgeons, whether theſe Maladies ariſe from Excreſcences, Caruncles, Contractions of the *Fibres* of the *Urethra*, Calloſities pro-

proceeding from venereal Cauſes, callous Ulcers of the *Lacunæ* of the *Urethra*, or Affections of the *Proſtate* Gland, or the reſt of the mucous Glands of the *Urethra*. But it is a matter of no very great Conſequence, what the exact Nature of the Diſeaſe may be, ſeeing the Cure depends entirely upon the removal of the Obſtruction, and it is probable from obſerving, that as other parts of the Body are liable to theſe ſeveral Appearances, this Part may be ſo too; and thongh it has been aſſerted by many, that there is no ſuch Diſeaſe as a fungous Excreſcence in the *Urethra* of Males, owing to the Difficulty of diſcovering ſuch Appearances after Death, yet from the Analogy there is ſubſiſting betwixt the natural Structure of the internal Part of the *Urethra* of Males and Females, I am inclined to think, the Exiſtence of this fungous Appearance in them can hardly be doubted; and that a very trifling Diſeaſe of this kind is capable of producing the moſt excruciating Pains may be concluded from the Hiſtory of the following Caſe, the Cure of which immediately depended upon the Removal of a Fungus of ſo inconſiderable a Size and Appearance as would not have been regarded in many other parts of the Body. But

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as the ſame Operation cannot be undertaken in Males with an equal probability of Succeſs from the Difficulty of knowing the exact Situation and Nature of the Diſeaſe, as well as from the different Length of the *Urethra* itſelf; we are obliged to have recourſe to ſuch Methods as operate more ſlowly, and not with ſo great a degree of certainty.

E. C. a Virgin aged 27, had been afflicted, (as I was informed by herſelf, and her Mother,) with a Diſeaſe in the urinary Parts, ever ſince ſhe was four Years old. The Symptoms under which ſhe had laboured from the beginning, were frequent Inclinations to make Water, which ſhe voided by Drops, and with exceſſive Pain.

SHE had never been quite free from theſe Complaints ever ſince her firſt Attack, but was particularly ill at the times of having her Menſes. Theſe Diſcharges were in general regular, both as to Time and Quantity; when it happened otherwiſe, her Complaints were greatly encreaſed, eſpecially at the very time when ſhe expected a return of them. The Pain and Irritations had been frequently ſo great as to occaſion Convulſions; and ſhe had been always

always incapable of getting her Livelihood at Service.

She had tried various Methods for her Relief without receiving the leaſt Benefit.

IN *January* 1754, I was deſired to attend her.

UPON Enquiry, I learnt that from the beginning, her Complaints had been in the *Urethra*, and neighbouring Parts. I carefully examined into the *Meatus Urinarius*, by introducing a female Catheter, with which I dilated it by inclining the Inſtrument to one ſide, and with ſome difficulty I diſcovered two Excreſcences ariſing oppoſite to each other from the internal Part of the *Urethra*, near its hither Extremity.

EACH of theſe Excreſcences was near as broad as a ſilver Penny, and reſembled the Valves of a Vein in their Situation.

THEIR Colour was red, their Texture ſpongy, and they conſiſted of a number of Fibres, as appeared upon Examination after their Removal.

UPON diſcovering their Seat and Riſe, I proceeded to extirpate them; which I effected in the following manner.

THE Patient being laid upon her Back, and her Knees bent and raiſed, I divided the *Ure-*

thra a little way obliquely upwards on its left ſide with a pair of Sciſſars, then I proceeded to ſnip off the Excreſcences at their Roots; to do which, the previous Diviſion of a Part of the *Urethra* afforded me ſufficient room.

The Operation was expeditious, but painful. There was very little diſcharge of Blood at firſt. In a few Hours after the Operation the Wound bled profuſely, but at length ſtopped of itſelf.

FROM this time ſhe had no other Inconvenience or Pain in the Part than what aroſe from the Acrimony of the Urine, which gradually abated till the Wound healed, which was in about ten Days after the Operation.

THE only Applications made uſe of to the Parts, were Fomentations of warm Water and Milk, and afterwards a doſſil of Lint ſpread over with cooling Ointment, and repeated twice or thrice a Day.

I HAD the Curioſity to call upon her about five Months after her Cure. She informed me that ſhe had continued perfectly well without the leaſt return of her Complaint, and that her monthly Diſcharges had been regular ever ſince I left her, without producing any of her former Symptoms.

CASE

CASE XLVI.

A remarkable Inſtance of a Wound by which the Tibia *was entirely divided.*

ON the 9th of *October* 1749, *J. L.* aged 44, received two remarkable Wounds from his Antagoniſt, who ſtruck him with a Hedging-bill. The one upon the upper part of his left Leg, immediately beneath the Inſertion of the Tendon of the *Patella*, by which the *Tibia* was entirely divided, without any remarkable Contuſion of the Integuments, or neighbouring Muſcles; the other on the left ſide of the Head, which divided the parietal Bone quite to its *Diploe*, and he loſt a conſiderable Quantity of Blood before any Aſſiſtance could be procured him.

THREE Days after the Accident, he was admitted into the Hoſpital and put under my Care. His Complaints were a Giddineſs, Fever, and Coſtiveneſs; for which he was let Blood, and Stools were procured by a Clyſter; from this Treatment he was conſiderably relieved. The following Day his Giddineſs

had quite left him, and his Wound had a favourable Aſpect, which continued to go well on till the 21ſt Inſtant, when the Diſcharge was conſiderably increaſed, appeared oily, and ſmelt very fœtid. He had reſted but little the preceding Night, and complained of great Lowneſs and Oppreſſion. Upon preſſing the Ham, a large Quantity of Matter was diſcharged, and upon introducing the Probe, both Bones were found bare. From this time the Diſcharge continued to increaſe till the 26th; for which reaſon I made a counter Opening, in order to procure a more depending Orifice for the Evacuation of the Matter. On the 27th, he was attacked with a Looſeneſs, attended with a Fever, and reſtleſneſs; which ſeveral Symptoms continued till the 4th of *November* following, when his Strength became greatly impaired, his Appetite quite loſt, and colliquative Sweats coming on, it was judged adviſeable to Amputate the Limb, which was done above Knee, and the Patient recovered; all his bad Symptoms diſappearing from the Day of the Operation.

UPON examining into the Condition of the Leg, the *Tibia* and *Fibula* were found carious for a conſiderable length.

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THE wounded *Cranium* became granulated, and was quite healed in a few Weeks, without any Exfoliation or Difficulty attending its Management.

REMARK.

THE Looſeneſs, Fever, *&c.* which came on ſo many Days after the Accident, could not be attributed to the Pain and loſs of Blood ariſing from the recent Wounds, as the Patient had been quite eaſy and well for ſeveral Days together; nor could they ariſe from any Impropriety in his Diet, *&c.* ſince he had been kept in the moſt abſtemious and quiet manner, from the time of his admiſſion into the Hoſpital; but theſe Symptoms may reaſonably be accounted for from the fœtid Matter being abſorbed into the Blood, and falling upon the tender *Viſcera*; and it is moſt likely this was the Caſe, ſeeing the ſeveral bad Symptoms of Looſneſs, Fever, and Lowneſs, immediately diſappeared upon the removal of the Part affected.

Query. Is it not probable, from the Circumſtances I have mentioned, that if the Operation had been deferred, the Patient muſt have

ſunk under the Diſcharge, or have died from a Reflux of the Matter into the Maſs of Blood?

IF theſe Arguments are of any weight (which ſeem to be ſupported by many Inſtances given us by Authors of undoubted authority) the Operation was beyond diſpute adviſeable, and muſt in general be ſo, where compound Fractures, Wounds, or Abſceſſes of the Joints, are attended with the like Symptoms. For though there may be a few Inſtances of the recovery of People, who have been nearly under the ſame Circumſtances, yet I think they are by no means ſufficiently numerous to induce one to truſt to any other Method of preſerving Life, than by having recourſe to the Operation; to which the Patients generally ſubmit with great Reſolution, in expectation of a Recovery.

CASE XLVII.

A ſingular Inſtance of a diſeaſed Joint requiring Amputation.

IN the Year 1744, *T. C.* accidentally injured his Knee by a Fall, it appeared ſwelled, and continued painful for ſome Months; but at length, by proper Management, grew quite well, and ſo continued for three Years; when his Symptoms returned with Violence, and increaſed for three Months, notwithſtanding the Aſſiſtance given him by a neighbouring Surgeon; who, beſides the uſe of Fomentations, and other various Applications to the Part affected, made him an Iſſue by Inciſion juſt below, and on the Outſide of the diſeaſed Knee, which was kept open for ſix Weeks, and then dried up. About a Month after the Iſſue was healed, a diſtinct Tumour appeared immediately below the *Patella* and on its outſide, which burſted of itſelf, but diſcharged very little. However, he grew conſiderably worſe from this time; his Appetite became

bad, and his Leg and Thigh began to waſte. Under theſe Circumſtances, he was admitted into the Hoſpital. But notwithſtanding the ſeveral Methods uſed for his Relief the Diſeaſe increaſed to ſo great a Degree, as to render the Amputation of the Limb neceſſary, which was done above Knee, and the Patient recovered.

REMARK.

UPON opening the Joint, the Integuments were found greatly diſeaſed, the Ligaments appeared conſiderably thickened, the Extremities of the *Os Femoris* and *Tibia* were much enlarged, and their *Cartilages* eroded.

BESIDES theſe *Phænomena* which are common to almoſt all diſeaſed Joints requiring Amputation, it had one thing peculiar to itſelf, which was, that it contained five Peas that were confined within the *Capſular*, or *Burſal* Ligament of the Knee. I examined whether I could diſcover the opening made by the Peas through the Ligament, but could not. It is to be obſerved, that the Iſſue had been healed up for near three Months before the Amputation.

CASE

CASE XLVIII.

Two ſingular Caſes of diſeaſed Knee-Joints ſucceſsfully treated, the firſt by Topical Applications, the ſecond by Operation. Communicated to the Royal Society, *and publiſhed in their Tranſactions for the Year* 1756.

DISEASES of the larger Joints of the Extremities have always been looked upon by Surgeons of the greateſt Eminence in their Profeſſion, to be attended with conſiderable Danger to the Patient, and with the greateſt Reaſon; ſince they have been convinced from much Experience that theſe Maladies are too often the Conſequences of depraved Habits of Body ariſing from a Scrophulous, Scorbutical, or ſome other general Cauſe. But though we are ſufficiently appriſed of theſe Facts, and that theſe Swellings do often baffle the greateſt Skill in Phyſic and Surgery, we are nevertheleſs not to infer from hence that every Diſorder of this kind is attended with the like bad Circumſtances,

ſince it is certain that Diſeaſes of the Joints, particularly thoſe of the Knee, are ſometimes merely local Complaints, which may not only be relieved by Surgery; but perfectly cured. The Species of Tumours I now hint at are ſuch as are diſtinguiſhed from other Tumours of this Part by the name of *Hydrops Articuli*, of which there are two different Kinds. The firſt, where the Diſeaſe is ſituated in the *Membrana Adipoſa*, and neighbouring Parts on this ſide the Capſular Ligament of the Joint. The ſecond where the Fluid is contained within the Capſular Ligament of the Joint, betwixt the lower Extremity of the Thigh-Bone, and upper Extremity of the largeſt Bone of the Leg called *Tibia*. The firſt Species of Tumour may be diſtinguiſhed from the ſecond Species by the Touch, by the Appearance of the Tumour of the firſt kind being very pale and uniform, by a want of Fluctuation, and by the very ſlight degree of Pain attending it. The repeated uſe of emollient Fomentations, Mercurial Frictions, and gentle Purges continued for ſome time have been often known to remove this Diſorder. At other times it has been found, when theſe Applications have had little or no Effect, that the Diſeaſe has been

been totally removed by the Application of perpetual Bliſters to the Part affected; which ſhould in moſt Caſes be continued for ſeveral Weeks. In ſome Inſtances I have known the Application of the *Petroleum Barbadenſe* (*Barbadoes* Tar) have ſo good an Effect, by being applied every Day to the Joint, even after ſeveral other Remedies had been unſucceſsfully tried, as to cure ſuch a Diſorder of the Knee-Joint as had hitherto been judged deſperate; in which Caſe, there was an enlargement of the Bones, as well as a very conſiderable one of the Integuments, and of the Tendinous and Ligamentous Parts; but without any degree of Inflammation. In this Inſtance no extravaſated Fluid could be diſcovered; however, there was an Immobility of the Joint, a conſiderable Contraction of the Hamſtrings, the Complaint was great, and the Patient deſcribed the Pain as ſhooting through the Ligaments of the Joints, through the *Patella*, and through the lower Extremities of the *Os Femoris*, and upper end of the *Tibia*. He was afflicted with a ſevere ſymptomatic Fever, which had been of many Weeks continuance, and the Patient was at length become greatly emaciated thereby. The Reaſon for my giving ſo particular a Relation of the Circumſtances

cumſtances attending this Fact, proceeds from the deſire I have of recommending a Trial of the ſame Remedy in the like Caſes; which, as far as I can judge from my own Experience, may always be ſafely done, where there is no Inflammation already formed upon the Integuments; and I am farther induced to communicate a ſhort Hiſtory of this Caſe, as it is an Application I never ſaw made uſe of under the like Circumſtances; though (it muſt be acknowledged) the uſe of it has not been very uncommon in old Sprains of the Joints, in which Caſes the *Barbadoes* Tar has frequently been tried with Succeſs.

THE ſecond Species of *Hydrops Articuli* (where the extravaſated Fluid is contained within the Capſular Ligament of the Joint) may be diſtinguiſhed from the firſt kind of Dropſy of this Part, by its deep Situation, by the Fluctuation which is diſcoverable upon patting the Knee on one ſide, whilſt the other Hand is placed immoveably on the oppoſite ſide; by the degree of Pain ariſing from the Diſtention which the Capſular Ligament ſuffers in conſequence of its Contents; by the Incapacity of bending the Joint, and by the Circumſtance of its being attended with no general

neral Complaints of Body, as well as from the ſudden enlargement of the Tumour, upon the increaſe of which principally depends, I believe, the degree of uneaſineſs in the Part. This is very far from being the caſe in that kind of Diſeaſe called *Spina Ventoſa*, which ariſes originally from a Diſeaſe of the *Medulla*, and Veſſels of the Bone itſelf, from whence proceed grievous pricking Pains that come on previouſly in general to any viſible enlargement of the Part affected, or any diſcoverable Quantity of Fluid depoſited in the Joint, which Symptoms are very different from thoſe ariſing from the ſecond kind of *Hydrops Articuli*, as may be learned from the ſucceeding Caſe, in which it was judged neceſſary to cut more than once through the Capſular Ligament to evacuate its Contents, which Operation (contrary to the common received Opinion of Wounds of the Ligaments being attended with certain deſtruction of the Limb) ſhould always be done under the like preſſing Circumſtances, in reaſonable Expectation of removing a Complaint that totally diſables the Patient, and too frequently terminates in the Loſs of the Limb when neglected; and I am more particularly inclined to recommend this Practice as I am con-

convinced that the Diſeaſe is out of the reach of ſuch Applications as are of ſervice in Diſorders of theſe parts whoſe ſituations are more ſuperficial; that is, on the outſide of the Capſular, or Burſal Ligament of the Joint.

W. D. aged 29 (by Buſineſs a Porter) was put under my Care on the fifth of *September* 1754, for a Diſorder in one of his Knees; upon enquiry, the Part appeared greatly ſwelled; it was attended with exceſſive Pain, which was continual; the Tumour had not the leaſt degree of Inflammation. The Diſorder aroſe without any accountable Cauſe, and had been only of three Weeks ſtanding: Upon placing one Hand on the outſide of the Knee, and by patting with the other Hand on the inſide of the Knee, it was an eaſy matter to diſcover a Fluctuation; for this Reaſon I judged it adviſeable to make an opening into the Tumour, which I did by Inciſion on the upper and inſide of the Knee-pan, as this was the moſt prominent part of the Swelling: Through the Wound a thick gelatinous Fluid, deeply tinged with Blood, was diſcharged in a full Stream to the Quantity of fourteen Ounces.

AFTER

AFTER the whole of the Fluid was evacuated, I introduced a Probe through the Inciſion, which I readily paſſed under the *Patella:* The Wound was ſuperficially dreſſed with Lint, and the whole of the Knee was covered with a Pultice of ſtrong Beer Grounds and Oatmeal. The Patient complained of conſiderable Pain for about four Hours after the Operation; at the end of that time he grew eaſy, and ſo continued till the ſecond Day after the Operation, when the Knee became a good deal painful; there was as yet very little Digeſtion: Upon enquiry, I learnt he had not been at Stool for three Days, which occaſioned the adminiſtering a Clyſter, by the Clyſter Stools were procured, and the Pain of the Knee became much leſs. The third Day after the Operation there appeared a conſiderable Diſcharge from the Wound, and the Knee was quite eaſy; the Patient continued in this State till the ſixth Day after the Operation; when the Quantity of Matter was much leſſened, the Pain returned, and laſted till the eighth Day; on this Day, the Diſcharge encreaſed, and the Pain remitted. From this Period I obſerved the Diſcharge continued to encreaſe until the eleventh Day, which proceeding altogether

together from within the Joint, I dilated the Wound, that the Matter might have a more ready Iſſue; this Operation anſwered my expectation; the Patient was eaſy until the fifteenth Day; when he complained of a return of the Pain. Upon enquiry I perceived that the outſide of the Knee was ſwelled, and by the Touch I diſcovered a Fluctuation under that part; theſe Symptoms induced me to make a counter-opening through the Integuments and Capſular Ligaments into the Tumour, which I found by the uſe of the Probe to have a communication with the Wound on the inſide of the Knee; from this time, the Patient went very well on without any farther Complaints; in about ten Weeks after the firſt Operation he was perfectly well, and ſtill continues ſo without any other Complaint than that of a ſmall degree of Stiffneſs in the Joint, as I have very lately had an opportunity of informing myſelf. During his confinement I made uſe of emollient Fomentations, dreſſed the Wounds ſuperficially, and continued the Pultice of ſtrong Beer Grounds and Oatmeal.

N. B.

N. B. the Patient took a great Quantity of Bark on account of the Diſcharge, which for ſome part of the time was very great, as well as on account of the Pain and ſymptomatic Fever.

REMARK.

The Hiſtory I have given of the preceding remarkable Caſe, with the Operation I have taken upon me to recommend in the like Inſtances, is not with a deſign of adviſing an Opening to be inconſiderately made through the Capſular Ligament of the Joint of the Knee in all Collections of Fluids in this part; nor would I have it ſuppoſed that I think this Operation is ever quite void of Danger: The propriety and neceſſity of ſuch an Operation depend entirely upon Circumſtances; I would therefore have it remembered, that I recommend it only to be done where the extravaſated Fluid appears very great in Quantity, where the Limb is rendered almoſt uſeleſs by the Diſeaſe, is attended with conſiderable Pain without any remarkable Enlargement and disfigurement of the Bones themſelves, which is a Circumſtance though rarely known to occur, yet moſt certainly does ſometimes happen,

happen. In thoſe Caſes of Collections of Matter in the Knee-Joints (Abſceſſes) which very frequently happen, and are attended with the Circumſtances of enlarged disfigured Bones, a waſting away of the Limb joined with a bad Habit of Body, I am of Opinion, an opening into the Joint by Cauſtic, or Inciſion, or otherwiſe, ſhould never be put in Practice; becauſe, I have frequently known this Method recommended and purſued with the diſtant hopes of ſaving the Limb, and cannot recollect one Inſtance where the Practice has been ſucceſsful; on the contrary this attempt to relieve has been followed with very painful and dreadful Conſequences: But where the Diſeaſe is differently circumſtanced, that is, not joined with a viſible affection of the Bones, and a bad Habit of Body, and which through neglect or otherwiſe has arrived to the State of *W. D*'s Caſe, an Opening through the Capſular Ligament is undoubtedly adviſeable in expectation of ſaving the Limb: The poſſibility of which may be learned from what has already been ſaid, and without which Operation I believe no Relief could have been given to the Patient but by a more ſevere Operation; to wit, the Amputation of the Limb.

CASE

CASE XLIX.

Of a fractured Patella.

A. B. aged 25, in *Auguſt* 1747, broke her Knee-pan by a Fall down Stairs, for which ſhe put herſelf under my Care. The Extremities of the divided Bone were at a conſiderable Diſtance from each other, but by extending the Leg, and gently preſſing the Extenſor Muſcles, and Tendons of the *Tibia* above the fractured Part, I brought them to within an Inch of each other, and they were retained in this Situation by a proper Compreſs and Bandage. In a few Days after their Reduction, I gently moved the Knee, by carefully bending and extending it, which was repeated every Day during her Cure. At the end of ſix Weeks ſhe appeared ſo well recovered as to be able to walk upon plain Ground, or up and down Stairs with very little Inconvenience. She could bend and extend her Knee very well; the parts of the fractured Bone remaining at the ſame Diſtance from each other, in

which they were at firſt placed. I obſerved during my Care of her, that ſhe had formerly broke her other Knee-pan, and that the Parts of the fractured Bone were then at leaſt three Inches diſtant from each other. She informed me, that ſhe had never applied to any one for Aſſiſtance in this Caſe; and that during the whole time ſhe had been capable of walking about, but was lame for three Months after the Accident. Since that time ſhe has enjoyed the free uſe of her Leg, and has been capable of walking upon plain Ground, or up and down Stairs without Pain or Difficulty.

CASE L.

Of a fractured Patella.

S. *P.* 43 Years of Age, broke her Knee-pan in *October* 1748, by a Fall down Stairs, for which Accident ſhe was recommended to my Care. Upon enquiry, the whole Knee appeared greatly contuſed, attended with a conſiderable Ecchymoſis and Tumour, which could not be diſperſed for near three Months. Upon the Removal of theſe Complaints,

plaints, the Extremities of the fractured Bone were discovered to be near two Inches from each other; her Knee appearing at the same time stiff and inflexible, in which state it remained for some time afterwards; but by the use of Fomentations, relaxing Ointments, and daily pains being taken in bending the Joint; it at length became flexible, and she was capable of walking upon plain Ground without any Lameness or inconveniency, but the going up and down Stairs, was attended with some Difficulty.

REMARK.

THE Method recommended above, in the Treatment of transverse Fractures of the *Patella*, is very different from the general Rule laid down by Writers to be observed in the like Cases. Their Advice being to bring the Extremities of the Bones, if possible, into Contact with each other, and to keep the Leg immoveably extended for eight or ten Weeks; but since it is found by Experience, that in consequence of such management, the Joint becomes stiff and inflexible, from, probably, the *Callus* of the broken Bone and Synovia of the Joint mixing together, and soldering up

the Joint, there is no doubt of the great Impropriety attending this Method of Treatment; and for theſe Reaſons it is now a Cuſtom with ſome of the moſt eminent in the Profeſſion, to treat theſe Accidents in the manner I have preſcribed, preferable to that which has been adviſed by Authors, by which means the Motion of the Part is ſtill preſerved.

N.B. THE ſame Rule ſhould be obſerved in the Treatment of tranſverſe Fractures of the *Proceſſus Olecranon* of the *Ulna*, regarding the frequent Extenſion and Flexion of the Elbow-Joint: For want of which Method I have known Accidents of this kind followed by an incurable Stiffneſs of the Part, to the great Diſſatisfaction and Injury of the Patient.

CASE LI.

Of a Diviſion of the Tendo Achillis.

WHEN a Tendon is in part divided by a ſharp Inſtrument, or wholly broke through, in conſequence of Jumping, Dancing, or any other extraordinary Violence; it is agreed, that the bringing the divided Extremities

tremities into contact with each other, and the keeping them ſo for a certain time by the help of Compreſs and Bandage, are generally ſufficient to compleat a Re-union, or at leaſt an Adheſion of theſe Parts, to the neighbouring ones, without any farther Opperation. It is nevertheleſs adviſed by Writers, who approve of this Method under the like Circumſtances, to make uſe of the Needle and Ligature, when the Tendon with its Integuments becomes totally divided by a ſharp Inſtrument.

FROM the ſeveral Inſtances of divided Tendons, which have come under my Cognizance, and which have been ſo treated, I have obſerved that the Parts always ſuffer conſiderable Pain and Inflammation from being ſtitched, and generally terminate in Abſceſſes of the neighbouring Integuments, and Sloughs of the Extremities of the Tendon, or Tendons, through which the Needle and Ligature have been paſſed, by which means the Cure is conſiderably retarded, and extraordinary Pain incurred. So that from theſe Obſervations, and from many others, I am induced to recommend a total diſuſe of the Needle and Ligature in the like Caſes, and to truſt to a favourable Poſition of the Limb, aſſiſted by pro-

per Compreſs and Bandage. Again, the Needle and Ligature ſhould not only be rejected in Diviſions of the Tendons, but in all other recent Wounds, where Compreſs and Bandage can be applied to Advantage.

A. B. had the Misfortune of dividing the *Tendo Achillis*, about two Inches above the *Os Calcis* by the ſlipping of an Ax, with which he was at work. He was put under my care. Upon Inſpection I obſerved the upper part of the Tendon to be at a conſiderable diſtance from the lower, in conſequence of the Contraction of the *Gaſtrocnemii Muſcles*. I made uſe of no other Method in bringing the Extremities together, than bending the Knee, extending the Foot, and gently compreſſing the Leg downwards from the Calf; which being done, I applied a Bandage from the Ham quite to the upper Edge of the Wound. At the ſame time, obſerving to keep the Foot extended, which was ſecured in this Situation by the help of a piece of Paſte-board properly adapted to the Foot, and ſecured on by a ſecond Bandage. The Parts were kept in this poſture for five Weeks, at the end of which time

time the Wound was healed, and the Extremities of the Tendon appeared perfectly reunited, or at leaſt adhered to their neighbouring Parts. The Ancle became ſtiff from being conſtantly kept in this poſition, but by the uſe of Fomentations, and an Embrocation of Neats-foot Oil, it ſoon became pliant, and perfectly uſeful. To theſe I could add ſeveral other Caſes of the like kind, did I think them at all neceſſary to confirm this Practice.

CASE LII.

Of a Diviſion of the Flexor Tendons of the Wriſt.

A. B. accidentally run his Hand through a pane of Glaſs, which cut his Wriſt on the fore Part, quite a-croſs. The upper cubital Artery was divided, and bled profuſely, but the Bleeding was ſtopt without much difficulty by the Needle and Ligature. The Tendons of the Flexor *Carpi Radialis*, *Palmaris longus*, and Flexor *Carpi Ulnaris Muſcles*, were likewiſe divided, and their upper Extremities were

drawn at a conſiderable Diſtance from the lower ones; the Flexor Tendons of the Fingers were in part divided; however, upon bending the Hand, and preſſing the Arm downwards, the Parts were brought together, and kept in that Situation till cured; which was in twenty-five Days after the Accident. Upon healing the Wound, the Parts appeared ſtiff, and ſomewhat uneven, but by the help of Fomentations, relaxing Oils, and gentle Extenſion frequently made uſe of, they perfectly recovered their free Motion, uſual Strength and Evenneſs.

I SHOULD not have thought theſe Caſes worthy of Communication, had not they been merely intended as an Illuſtration of the Advantages of this Practice, preferable to the other Method.

IT is worth obſerving, that the Inflammation which ſucceeded upon this Method of Treatment was no more than what always happens to other parts in inciſed Wounds of equal depth and ſize, and that there were neither Abſceſſes nor Sloughs in conſequence of the Accident, or Management of the divided Tendons.

CASE

CASE LIII.

Of a Rupture of the Tendo Achillis.

A. B. had the Misfortune to break the *Tendo Achillis* entirely in two by Jumping, but as he was ignorant of the Injury he had ſuſtained, he was carried home, and had not proper Aſſiſtance given him till a Week after the Accident, when he was recommended to my Care. Upon Examination, I found the *Tendo Achillis* entirely ſeparated; the Extremities of the divided Parts were at leaſt an Inch and a half diſtant from each other, and the Patient complained of conſiderable Pain, I proceeded to the reduction of the divided Parts, which I effected with ſome Difficulty by extending the Foot, bending the Knee, and forcibly compreſſing the Muſcles downwards. When this was done, I placed a Compreſs upon the Leg, from the Ham down to the upper edge of the divided Tendon, and upon this applied a Roller, with a degree of tightneſs ſufficient to prevent the Contraction of the Muſcles

Muſcles called *Gaſtrocnemii*; when this was done, I placed a linen Compreſs upon the upper part of the Foot, and upon that, a piece of Paſte-board; which were ſecured on by Bandage, and the whole Leg was tied up in a Pillow. He became eaſy ſoon after the reduction of the Tendon, and ſo continued till he left me, which was in about five Weeks; during which time, the Compreſs and Bandages were renewed as occaſion required. The Extremities of the Tendons remained together, but he continued lame, and was weak in the Part for ſome time, till at length he recovered the uſe and ſtrength of the Limb. I did not obſerve that there was any waſting of either of theſe Limbs, as is not uncommon after Accidents of the like kind.

REMARK.

IF it ſhould be inſiſted upon that the Needle and Ligature are ſtill adviſeable in Tendons that are divided by a ſharp Inſtrument, they cannot but be equally ſo in Tendons that are divided by being ruptured where there is no Injury done to the Integuments; but I fancy it will be allowed upon conſideration, that a divided Tendon is as likely to

to do well, as a ruptured one; ſince the Parts may always in recent Caſes be brought together with equal eaſe, and kept ſo by a proper Situation of the Part, aſſiſted with Compreſs and Bandage.

CASE LIV.

Monſieur Faget's *Remarks on the Uſe*, &c. *of the Styptic purchaſed by his Moſt Chriſtian Majeſty*; *communicated by* James Theobald, *Eſq*; F. R. S. *inſerted in the* Philoſophical Tranſactions *for the Year* 1753.

December 7, 1752, about the end of the Year 1750. Mr. *Broſſard*, a Surgeon from *Berry*, came to *Paris*, to propoſe the uſe of a Remedy, which he had diſcovered for ſtopping the Blood after Amputations, and which he aſſerted, to have found effectual in ſeveral Amputations of the Arms and Legs.

At his requeſt, ſome Gentlemen of the Academy of Surgery were deputed, in whoſe preſence he was to make ſome new Experiments in ſtopping the Blood upon different Animals,

Animals, and in all which he ſucceeded, by ſtopping it in the largeſt Arteries after Amputation. But the Succeſs of this Remedy might yet be conſidered a little dubious, becauſe many Animals, as in Dogs particularly, the great Arteries ſtop of their own Accord; and rarely any Dog dies from an *Hæmorrhage*, becauſe their Blood is more diſpoſed to congeal, and by that means to ſtop the Diſcharge.

FOR this reaſon, the Experiments made on Animals not being thought ſatisfactory, and yet being convinced, that no ill effect could follow the Application of this Remedy on human Kind, Mr. *Broſſard* was permitted to uſe it at the Hoſpital of the Invalids, in an Amputation of the Leg, which ſucceeded perfectly well; and not the leaſt ill Accident happened through the whole time of the Cure.

SOMETIME after this, two Waggoners were run over by a Waggon loaded with Stone, and each of them had one Leg broke in a miſerable manner. Theſe two Men being brought to the Hoſpital of the Charity, I ſaw no other hopes of Succeſs, but in amputating the Legs; and, for that reaſon, I requeſted

requeſted Mr. *Broſſard* would be preſent, and give me a Proof of this new Application, which we applied in the following manner.

As ſoon as the Leg was cut off, I ſlackened the Tourniquet to diſcover the Veſſels, and Mr. *Broſſard* applied upon the Orifices of the two Arteries, two pieces of his Aſtringent, faſtened one upon another with a Ribband, in the manner which I have ſent to you, and as it is in the Drawing. After the Application was made, I ſtreightened the Tourniquet, and paſſed the two ends of the Ribband, which was faſtned to the upper Piece of the Aſtringent, upon the Stump, over the Knee, and applied a Linen Bag, filled ſlightly with the ſame Aſtringent in Powder, upon the whole Wound; and, over all, applied the common Dreſſings in the like Caſe. After the Dreſſing was finiſhed, I ſlackened the Tourniquet, and two Hours after, took it entirely away. Eight and forty Hours after this, we took off the Dreſſings, and not the leaſt drop of Blood followed from the Veſſels; and we again applied one ſingle piece of the Aſtringent upon the two Veſſels; and I dreſſed the other Parts of the Wound with Pledgets

of

of Lint, with common digeſtive, a Styrax Plaſter, and the uſual Bandage.

THE third Day the Aſtringent fell off of itſelf, in the time of Dreſſing; and the Patient, after that time was dreſſed in the common Manner. The ſame was done to the other Patient, after the Amputation, as to this.

THE firſt of theſe Men died on the fifth Day, and the other on the ninth; but there did not appear through the whole, the leaſt tendency to an *Hæmorrhage*. Thus the Remedy fairly produced its effect, as to the ſtopping of the Blood.

HOWEVER, in order to determine the Manner, in which this Aſtringent produces its effects, I examined the Blood-Veſſels of thoſe two Patients after their death, and I found them contracted and ſtraitned, as if they had been tied, and, in the largeſt of them a conic Coagulation of the Blood, which was an Inch and half long; and after having taken out this Coagulation, it was with difficulty, that I could introduce the Point of a very ſmall Probe into the Orifice of that Veſſel.

THE Patient who died on the ninth Day, had the Arteries contracted in the ſame Manner;

ner; but with this difference, that the Congelation was at leaſt four Inches long.

MR. *Morand* has employed this Remedy with Succeſs, in applying it to a Wound made by a Sword in the bending of the Arm; and, I myſelf have made uſe of it, with great Succeſs on occaſions where the temporal, and intercoſtal Arteries have been opened.

IN the laſt mentioned Caſes, I applied but one piece of the Styptic upon the opening of the Artery; and this generally falls off at the firſt Dreſſing, that is, forty-eight Hours after the Application, without the leaſt Appearance of an *Hæmorrhage*, or other ill Symptoms which can raiſe any Objections to this Styptic; for thoſe Patients are all recovered.

THERE have been lately made at the Hoſpital of the Invalids two Experiments of this Aſtringent in Amputations; and in both, the Succeſs has been equal to all that can be deſired. The Surgeon, in theſe Caſes, uſed only the two Pieces applied one upon the other, without uſing the Powder in the Bag, as before; and dreſſed the whole Wound with Lint, and the common Bandage.

THUS, then at laſt, there appears to be diſcovered a Remedy beyond our hopes, and

which

which Art has never yet equalled. The Application of Fire was the cruel Reſource of the Ancients; and *Paré* believed himſelf inſpired, when he diſcovered the uſe of the Ligature. But, alas! how many Accidents are there, which ariſe from the uſe of thoſe two manners, and which too often terminate in the Death of the Patient! Happy for us, that thoſe Accidents now appear to be no longer to be feared by the lucky Diſcovery of this Styptic, the firſt Experiments of which have ſo greatly promiſed Succeſs!

IT may be remarked, that, if this Aſtringent ſucceeded only in coagulating the Blood, it has produced nothing extraordinary, for theſe Coagulations would not have been ſufficient to have ſtopped the *Hæmorrhage*, directly after the Operation in Amputations; but its excellency lies in contracting the Arteries ſo cloſely, that it hardly lets a little Probe into the Aperture of the Artery, and by this means, forms as it were a perfect Ligature, much more certain than the uſual one, as this is not made in any one point of the Cylinder of a Veſſel. Thus this Application exceeds every thing which has hitherto been produced by the Operation of our Hands.

THIS

THIS ſingularity in the Operation of this Remedy, ſuppoſes another in the Veſſels, which is the great Contractility of the Fibres of the Arteries. Theſe, indeed, do naturally contract of themſelves, but not to two thirds of their Diameter; nor to that ſtate in which they are ſtraitened by the effect of this Aſtringent; becauſe by that, the whole Aperture is almoſt intirely taken off in the largeſt Veſſels, and it is eaſy to imagine their Effects in the ſmalleſt.

IT may be obſerved, that it is not in the dead parts of Bodies that this Contraction can be made; it requires the Aſſiſtance of the vital Principal, and operates on the Fibres by certain Articles contained in it, which diſpoſe the Animal Body, by its Irritation to ſhorten its Fibres, and reduce the tiſſue which they compoſe in a leſſer Volume.

THIS Remedy, of which I have been ſpeaking, is nothing elſe but the Agaric of the Oak. The beſt kind of it is found on the Parts of Oak-trees where the large Limbs have been cut off, and it very often reſembles a Horſe-ſhoe in its ſhape. This Agaric is diſtinguiſhed into four parts, the Rind; the ſecond Part, which is preferable to the other;

the third Part ſerves for the ſtopping the Blood in ſmaller Veſſels, as well as that part which touches the Tree; this laſt was what was powdered, and applied in the little Bag, as in the Operations of the Charity.

THE ſecond Part is what I make uſe of in Amputations, which is cut into pieces of the Size of that which I have ſent you. It muſt be beaten by a Hammer till it is ſoft, and this is its whole Preparation. Every part is prepared alike.

THE beſt time of collecting it Mr. *Broſſard* has found to be in the *Autumn*, in fine Weather, after great Heats.

THIS, then, Sir, is all I can collect of the Uſe, Application, and Preparation of this new Remedy for ſtopping Blood. If the *Royal Society* ſhall find any thing in it worthy their regard, I ſhall think myſelf happy in having communicated theſe Obſervations.

AT the time of reading the above Memoir, ſome bits of Agaric were exhibited to the *Royal Society*, part of which was delivered to me to make trial with, upon the next Opportunity, which I did in a few Days after with Succeſs; and preſented the following Account

of

of its effects to the *Royal Society*, which was read by one of the Secretaries.

December the 14th, 1752, *Thurſday*. *Hatton-Garden*.

AGREEABLE to the Deſire of this *Society* I have taken the firſt Opportunity of Communicating the Effects of the Agaric of the Oak in ſtopping of *Hæmorrhages*, or bleeding from the principal Veſſels after Amputation. If I have been too circumſtantial in my Narrative of the Symptoms and Circumſtances attending the following Caſe; I hope you will attribute it merely to the Deſire I have of giving you all the Satisfaction I am capable of, relating to the Experiment made with this Styptic; and this I have been more particularly induced to, as it is the firſt Caſe of the Kind offered to your Conſideration, where this Application has been made uſe of in *England*.

CASE LV.

Of an Amputation of the Leg.

Saturday, December the 9th, 1752, *C. S.* aged 24, had her Leg amputated below the Knee, at twelve o'Clock at Noon on account of an incurable Ulcer, with which ſhe had been afflicted for 13 Years. She loſt very little Blood in the Operation. Immediately after the Amputation, a Piece of Agaric of a proper Size (the ſame which was delivered to me by the *Royal Society* for this purpoſe) was applied to the Mouths of the principal Arteries. Two other ſmall pieces of Agaric were applied to the Mouths of two ſmaller Arteries, which appeared at ſome diſtance from the principal ones. Upon the Pieces of Agaric, Doſſils of Lint were applied, and over all, a Pledgit of Tow ſpread with yellow Baſilicon, which were kept on by the common Bandages made uſe of in ſuch caſes, and applied with the uſual degree of tightneſs.

For

FOR about an Hour and quarter after the Operation, the Tourniquet was kept on moderately tight at a convenient Diſtance above the Knee, at the end of which time, it was ſlackened ſo as to have no degree of Preſſure upon the Femoral Artery. The Patient was much eaſier than I had ever obſerved after the uſe of the Needle and Ligatures. Her Pulſe appeared very little diſturbed, till about four o'Clock this Afternoon, when the Symptomatic Fever began to come ſlightly on, attended now and then with convulſive Twitchings of the Stump and Thigh; for which Reaſons the Tourniquet was ſomewhat tightned. At ſeven o'Clock this Evening the Tourniquet was quite let looſe; ſoon after which, the convulſive Twitchings became leſs frequent, and leſs ſevere; theſe Spaſms of the Limb ſhe had been long uſed to have, and by her own account, they had been more ſevere before the Operation than ſince.

SHE had but little reſt this Evening; *Sunday* Morning ſhe appeared as well as could be expected, her Pulſe was calm, and ſhe had no particular Complaints. At twelve o'Clock at Night ſhe fell aſleep, and ſo continued till ſeven o'Clock the next Morning.

Monday Morning ſhe appeared well, her Pulſe was calm, and ſhe had no particular Pain. *Monday* Night ſhe ſlept but little, but was very eaſy the whole Time; *Tueſday* Morning ſhe appeared very well, and her Pulſe quiet; this Morning ſhe was dreſſed in the uſual Manner, her Wound appeared with a very good Aſpect. She has ſuffered no Pain in the Part where the Agaric was applied, and is in all reſpects as well as can be expected. At ſeven o'Clock this Evening I viſited her, ſhe was perfectly eaſy, the convulſive Twitchings of which ſhe at firſt complained, are quite removed.

Thurſday December 14, ſhe continues well; her Wound was dreſſed again this Morning, from which there appeared a very proper Diſcharge of Matter, not in the leaſt tinged with Blood. The whole of the Agaric with the reſt of the Dreſſings were removed without giving Pain. Upon the Removal of the Agaric, I enquired narrowly, whether I could diſcover the Extremities of the Arteries, or their Pulſation, but there was not the leaſt appearance of either of them: From this time ſhe continued to mend without the leaſt Interruption, till ſhe was diſmiſſed the Hoſpital.

A ſhort Hiſtory of the Effects of the Agaric of the Oak in ſtopping of Bleedings, after ſome of the moſt capital Operations in Surgery; with an Account of the Manner of its acting upon the Veſſels. Communicated to the Royal Society.

IN *December* 1752, I had the Honour of communicating to the *Royal Society* the good Effects of the Agaric of the Oak in the Caſe of a young Woman aged 24, whoſe Leg I had cut off below the Knee. Since that time, I have not heard of any farther Trials which have been made with it, or of any Accounts that have been given to the *Society* of its great Uſefulneſs in Surgery. This may probably ariſe from the Virtues of the Agaric not being as yet much known in *England*, or from the unwillingneſs of Surgeons to adopt ſuch a Method as they may probably ſuppoſe to be attended with hazard. The great Succeſs which attended my firſt Experiment of this kind, was a ſufficient Inducement to me to make a farther Trial of it in other Caſes of the like

nature. This I have lately done in four more Inſtances; all of which have been attended with Succeſs equal to the firſt. The particular Advantage of the Agaric is evidently this, that it has generally the power of effectually reſtraining the Bleeding without giving Pain; for which reaſon there appears to be much leſs of the Symptomatic Fever than what occurs after the uſe of the Needle and Ligature; which is, by much, the moſt painful Proceſs of the Operation in Amputations, and is ſometimes productive of Convulſions, as has been obſerved by Monſieur *Le Dran* in his Chapter of *Amputations*, under which Circumſtances he particularly adviſes the cutting the Ligatures, *&c.* The Ligatures have ſometimes the farther Inconvenience of remaining quite fixed to the laſt, on which account they unavoidably retard the healing of the Wound.

BESIDES the effect of reſtraining the *Hæmorrhage* in all recent Wounds, which the Agaric has very often in common with the Ligature, it has one great Advantage peculiar to itſelf, which is that of reſtraining the Bleeding in Wounds of ſeveral Days or Weeks ſtanding, where the Parts are become

come ſo rotten as to be incapable of bearing the Ligature. This I have known to have been the Effect of it in ſeveral Inſtances where the Ligature has been attempted in vain. The manner in which the Agaric acts, is by contracting, or purſing up the Extremities of the divided Veſſels. I had an Opportunity of enquiring into this Fact in a Patient whoſe Leg was cut off below the Knee. Immediately after the Amputation, pieces of Agaric were applied to, and properly ſecured upon the Mouths of all the principal Veſſels. In about an Hour after the Operation the Stump bled a-freſh; on which account I removed all the Dreſſings, except thoſe pieces of Agaric that were at firſt applied. This gave me an Opportunity of diſcovering the Source of the *Hæmorrhage*, which was from a collateral Veſſel at leaſt an Inch diſtant from the principal ones. When I had ſecured the Veſſel, I had the Curioſity to remove the bits of Agaric from thoſe very parts to which they were at firſt applied. I obſerved the Mouths of the Veſſels to be totally contracted in ſo ſhort a ſpace of Time, and to be capable of reſiſting the whole Force of the Circulation; the Extremities

mities of the Veſſels being altered from their natural ſhape of a Cylinder, to that of a Cone. After having ſaid thus much in favour of the Agaric, I ſhall conclude with a Reference to the following Caſes, as ſome Confirmation of what has been above advanced.

CASE LVI.

Of an Amputation of the Leg.

CASE the 1ſt.

MAY 1754, *J. L.* aged 51, had been long afflicted with an Ulcer in his Leg, which at length became ſo general (occaſioned by an Impoveriſhment of the whole Maſs of Blood, and a conſtant ſlow Fever with which he had been for ſome time afflicted) as to deſtroy the greateſt part of the Tendons and Muſcles from the Calf of the Leg down to the Ancles. The Diſcharge from the Wound had been for ſome Weeks ſo exceſſive, as to reduce him to the greateſt Extremity; and the whole Subſtances of the *Tibia* and *Fibula* appeared quite rotten for a conſiderable length.

IN

IN conſideration of the foregoing Symptoms, it was recommended to him to part with the Limb (though at the ſame time the Succeſs of the Operation was judged to be very precarious, on account of his great weakneſs, and bad habit of Body) which he readily aſſented to, and I performed the Operation in the following manner.

THE Patient being ſeated upon a Table of a convenient height, and properly ſecured by Aſſiſtants, a Linen Compreſs about two Inches broad was applied round the Thigh a little above the Knee. Upon this the Screw Tourniquet was fixed, with a degree of tightneſs ſufficient to prevent the courſe of the Blood through the Femoral Artery and its Branches.

THIS being done, I applied a piece of Tape round the Leg, about five Inches below the Knee, as a Direction for the Knife; then I proceeded to divide the Integuments quite through, which were drawn back by an Aſſiſtant, and afterwards divided the Muſcles as near as poſſible to the Integuments quite to the Bone. Immediately after this, I introduced the Catline betwixt the *Tibia* and *Fibula*, with which I divided the *inter oſſeous* Ligament, &c.

&c. and then proceeded to ſaw through the Bones.

IMMEDIATELY after the Amputation, I looked for the principal Arteries, and eaſily diſcovered them without ſlackening the Tourniquet, (which I have ſeldom had occaſion to do in Operations of this kind.) Upon the Mouths of theſe Veſſels I applied ſmall bits of Agaric, about the ſize of a Shilling, as well as upon the Mouths of the ſmaller Veſſels which diſcovered themſelves by their oozing. Upon the bits of Agaric I applied ſoft Layers of Lint. All theſe were covered with a Pledgit of Tow ſpread with yellow Baſilicon, and properly ſecured on by the common Bandage.

ABOUT three or four Minutes after he was rolled up, and put to bed, I diſcovered the Blood to diſcharge freely through the Dreſſings, upon which I tightened the Tourniquet in expectation of ſtopping the Bleeding, but this appeared evidently to encreaſe it.

SEEING this uncommon effect, I quite ſlackened the Tourniquet, upon which the Bleeding immediately ceaſed. This I was led to from a Suppoſition that the Veins had probably ſuffered ſo great a Compreſſion from

the Inſtrument, as to be incapable of returning that Blood which was carried to the neighbouring Parts by the collateral Arteries ariſing from the principal Trunk above the Ligature. But whether this was the true Reaſon or not, I cannot take upon me to determine; however the fact was, that the Bleeding immediately ceaſed, and did not return again.

THE Patient was dreſſed on the fourth Day after the Operation, and the whole of the Agaric was removed. Since then he has been treated in the common Method without any farther uſe of the Agaric. The Patient has had very little Fever or Pain ſince, and was well in health nine Weeks after the Operation, but the Wound was not then healed.

CASE

CASE LVII.

Of an Amputation of a Breaſt.

CASE the 2d.

MAY 1754, *E. H.* a very luſty Woman, 38 Years of Age, had been afflicted for ſome time with a diſeaſed Breaſt, which at length became cancerous. The Baſis of the Breaſt was much larger than common, and was complicated with a conſiderable Schirrous Knot which extended to the Arm-pit.

As things were thus circumſtanced, it was plain that nothing could be adviſed, but the Amputation of the Part; which ſhe conſented to after ſome Weeks deliberation, and I performed the Operation in the following manner.

THE Patient being ſeated upon a long Stool of a convenient height, and an Aſſiſtant behind her, who ſecured her by claſping her round the Waſte, I ſeated myſelf in a Chair oppoſite to her, and ſupporting the Breaſt with my left Hand, I began with making

making a ſemicircular Inciſion upon its ſuperior Part with a round edged Knife, which was continued quite to the pectoral Muſcle. After this, I diſcovered an adheſion of a Part of the Baſis of the Breaſt to the pectoral Muſcle, from whence I ſeparated it; then I proceeded to divide the Integuments quite round on its inferior part, and finiſhed the Amputation by diſſecting the inferior Part of the Breaſt from the lower Part of the pectoral Muſcle, upon which it lay looſe, and quite free from adheſion.

IN the Operation, ſeveral Arteries of a conſiderable ſize were divided, which were compreſſed by the Fingers of an Aſſiſtant, till the whole of the Breaſt was removed.

AFTER cutting off the Breaſt, I made a longitudinal Inciſion through the Integuments quite to the Extent of the Schirrous Tumour, which afforded me ſufficient Room to diſſect it out.

IN removing the Tumour, I neceſſarily divided a conſiderable Artery which nouriſhed it.

THE Wound was large, and bled freely from five or ſix Arteries.

I MADE uſe of no other method to ſtop the Bleeding than the Application of pieces of Agaric to the Mouths of the Veſſels, which were properly ſecured on by a Flannel Roller, after being firſt covered with common dry Lint, and a Pledgit of Tow ſpread with Digeſtive. The Symptomatic Fever was very ſlight; ſhe has been quite free from thoſe painful Spaſms which conſtantly ariſe from the uſe of the Needle and Ligature. There has not been the leaſt loſs of Blood ſince the Operation. Her Wound was dreſſed on the fourth Day, when the whole of the Agaric came away. Since then it has been treated in the common Method. She is very well, and her Wound was at the Point of being healed in nine Weeks after the Operation.

CASE

CASE LVIII.

Of an Amputation of a Leg.

MAY 1754, *G. W.* aged 12 Years, was admitted into the Hoſpital with a Complaint in one of his Ancles and Feet, with which he had been afflicted for ſome time. The Diſeaſe was an Abſceſs in the Joint of his Ancle; and he had another Abſceſs on the upper part of the ſame Foot, which had diſcharged, and continued to diſcharge ſo much as to waſte his whole Limb, to bring on an hectic Fever, and to render him incapable of putting his Foot to the Ground without bringing on exceſſive Pain.

HE had very little Appetite, the Ligaments of the Ancle and Foot, as well as the Bones of this part were much enlarged, and become carious.

IN conſideration of theſe Circumſtances, and not being able to cure, or give him Relief by any other Methods, I adviſed the Amputation

of the Leg, which was complied with, and I performed the Operation on the 13th of *May* 1754, in the manner as before deſcribed, and in the uſual Place below the Knee.

THE Agaric and Dreſſings were applied as in the preceding Caſes, which anſwered perfectly well in all Reſpects.

THE Tourniquet was quite removed in ten Minutes after the Patient was put to Bed. He has had very little Fever, Reſtleſſneſs, or Pain ſince the Operation.

HIS Wound was dreſſed on the 5th Day after the Operation, and the whole of the Agaric was then removed.

THE Patient is very well in Health, and his Wound was very near being well in eight Weeks after the Operation.

CASE LIX.

Of an Amputation of a Leg.

MAY 1754, *R. B.* aged 54, was admitted into the Hoſpital with a Mortification in his Foot, which, notwithſtanding all the means uſed in Phyſic and Surgery for his Relief, continued to advance till it extended to about two Inches above the Joint of the Ancle, where at length it ſtopped, after having deſtroyed the ſeveral Tendons, Ligaments, and Perioſteum, which belong to the neighbouring Parts.

THE Patient was of a very bad habit of Body, his Countenance was ſallow, his Pulſe quick and languid. He was in a very weak ſtate, and his whole Maſs of Blood greatly impoveriſhed. He at the ſame time had a Mortification in the other Foot, which deprived him of all his Toes.

WHEN the Mortification was ſeparated, and his habit of Body improved by proper

Medicines and Time, the Amputation of the Limb was adviſed, which he conſented to; and I performed the Operation in the uſual place below the Knee, on the 21ſt of *May* 1754, and in the ſame manner as has been already deſcribed in the Caſe of *J. L.* p. 314.

I MADE uſe of no other Methods to ſtop the Bleeding than the Agaric, which was applied to the Mouths of the Veſſels, as in the preceding Caſes.

IMMEDIATELY after the Operation and Dreſſings were finiſhed, the Patient was removed to Bed, and the Tourniquet taken off.

HE has not had the leaſt loſs of Blood ſince the Operation.

THE Pain and Fever have been very inconſiderable.

IT is now eight Weeks ſince the Operation was performed; the Patient is alive, and his Wounds as near being well, as the Time, his Age, and bad habit of Body can be ſuppoſed to admit of.

REMARK.

THE Caſe of *J. L.* has ſomething ſingular in it, and particularly proves the extraordinary efficacy and uſefulneſs of the Agaric.

I HAVE already taken notice how frequently it is impracticable to make a proper uſe of the Needle and Ligature in Wounds of long ſtanding; and I farther know from Experience that it is no uncommon thing to meet with the ſame Diſappointments even in recent Wounds that are made upon diſeaſed Parts. So that I think it may be reaſonably queſtioned, whether I ſhould not have met with the like Difficulty in this Subject, had I attempted to ſecure the Veſſels by Ligatures.

CASE LX.

Of an Amputation of the Leg.

THIS Operation was performed ſince the Communication of the four preceding Caſes to the *Royal Society*.

July the 6th 1754, *H. R.* a young Man of 24 Years of Age, was admitted into the Hoſpital on the 25th of *April* of this Year, on account of a Diſeaſe in his left Foot.

THE Part was much enlarged and inflamed. He had a Fever, and there was a conſiderable

Collection of Matter which pointed on the upper and outer part of the Foot, betwixt the Extremities of the *Tibia* and *Fibula*.

THE Tumour was opened by Cauſtic, and diſcharged about a Quart of very fœtid Matter.

THERE was a ſecond Abſceſs formed on the Inſide of the Leg, under the *Tendo Achillis*, which was opened by Inciſion.

FROM the Account given me by the Patient, the Diſorder had been about ſixteen Months ſtanding, and took its riſe from a ſtrained Ancle, which was immediately ſucceeded with a conſiderable degree of Pain and Swelling. But by Reſt, and the Application of warm Vinegar to the Part, theſe Symptoms were ſoon removed, and he continued eaſy and perfectly well for a few Weeks, when he had the Misfortune to ſtrain the ſame Ancle again.

FROM the Moment of the ſecond Accident, the Patient became lame, his Ancle and Foot ſwelled, and his Diſorder increaſed for two Months.

IN this ſituation he put himſelf under the Care of an eminent Surgeon. The Tumour terminated in an Abſceſs, and was opened by Inciſion.

THIS

THIS Collection of Matter was ſucceeded by ſeveral others, which were opened in the ſame manner.

THE Wounds were cured in about eighteen Weeks, and the Patient was reſtored to the perfect Uſe and Motion of his Foot.

HE continued quite well for ſix Months, when on a ſudden, the Foot became painful, and ſwelled again without any previous Accident, and ſoon afterwards one of the former Wounds broke out, from whence there aroſe a conſiderable *Fungus*.

IN conſequence of the Diſeaſe, the Leg was become waſted, the Patient was incapable of putting his Foot to the Ground, he reſted very little, his Appetite was bad, his Pulſe quick and low, the whole Ancle and Foot were greatly enlarged.

FROM theſe Circumſtances, and all Attempts to relieve him having failed, it was judged adviſeable to Amputate the Limb; which I did this Morning in the uſual Place below the Knee, and in the ſame manner as has been already deſcribed.

WHEN the Leg was cut off, bits of Agaric were placed upon the Mouths of the ſeveral Arteries, as in the preceding Caſes, and the

ſame kinds of Dreſſings and Bandage applied over them; the Patient was immediately removed to Bed, and in a few Minutes after, the Tourniquet was let quite looſe.

UPON ſlackening the Tourniquet, the Patient complained of a Convulſion in his Stump, which was ſucceeded by a Diſcharge of Blood through the Dreſſings from the *Arteria Tibialis Antica*.

SEEING this, I tightened the Tourniquet, upon which the Bleeding ceaſed. I kept the Tourniquet moderately tight for a Quarter of an Hour, and then looſened it again. The Patient, upon its being looſened, complained of a return of the Spaſm in his Stump, and there preſently enſued a ſecond Diſcharge of Blood from the ſame Veſſel. On this Account, I tightened the Tourniquet again, and compreſſed the Femoral Artery; upon which the Bleeding immediately ceaſed. I kept the Ligature moderately tight for about a Quarter of an Hour, and then looſened it till it had no degree of Preſſure upon the Artery. From this time, the Bleeding ſtopped, and did not return again.

UPON the whole, I judge that the Quantity of Blood which was loſt in conſequence of the Ope-

Operation did not amount to eight Ounces; and of this I am very certain, becauſe I had placed a Baſon under the Stump for the Reception of the Blood, which amounted to about three Ounces; and allowing there was the ſame Quantity, or a little more, abſorbed by the Dreſſings and Rollers, the whole could not amount to more than I have ſuppoſed; which Evacuation, after an Operation of this kind, is more likely to be ſerviceable than injurious to the Patient, when he has not been much reduced by the Diſeaſe.

THE Patient reſted very well the Night after the Operation, he had ſcarcely any ſymptomatic Fever, and the next Morning was perfectly eaſy.

FROM this time he continued to go on very well without the leaſt interruption, or return of the Bleeding.

THE Wound was dreſſed on the 4th Day, when the whole of the Agaric was removed, and only the common Digeſtive applied to the Stump; I examined whether I could diſcover the Extremities of the Veſſels, or any Pulſation in the Wound, but could not.

THE Wound was dreſſed again on the 6th Day; the Patient remains very well, he has had

had hardly any Fever or Uneaſineſs, his Wound is in a perfect good State.

ON the 7th and 8th Days the Patient was very well, his Wound continued from this time to go well on till his Cure, which was compleated in eleven Weeks.

REMARK.

UPON examining into the Condition of the Foot, after it was Amputated, a great part of the Capſular Ligament of the Ancle-Joint appeared to be deſtroyed. The ſuperior part of the *Aſtragalus*, and inferior part of the *Tibia* were deprived of their *Cartilages*. The Integuments and neighbouring Tendons were greatly thickened, and adhered inſeparably to each other. The *Membrana Adipoſa* had the Appearance of a *Cartilage*. The *Tarſal*, and *Metatarſal* Bones were much enlarged.

N. B. THE Reaſon of my diſcontinuing the uſe of the Agaric from *December* 1752, to *May* 1754, was owing to my not being able to procure ſuch as I believed might be depended upon. But ſince I have had it in my power to procure the genuine Species of Agaric, I have always uſed it; and haye never as yet met

met with one Inſtance of its failure; nor have I ever been under a neceſſity of applying it a ſecond time after any Operation whatſoever, except in that Inſtance which has been taken notice of in the Introduction to theſe Caſes.

BESIDES the particular Operations of which I have already given an Account, I could treat of ſeveral others wherein I have applied the Agaric with equal Benefit: But I look upon it as unneceſſary to give a Detail of its Effects upon Veſſels of leſs conſequence than thoſe I have already ſpoken of; concluding it muſt neceſſarily be allowed, that whatever Styptic is powerful enough to ſuppreſs an *Hæmorrhage* from the larger Veſſels, muſt, *cæteris paribus*, be ſufficiently powerful to ſuppreſs an *Hæmorrhage* from the ſmaller, provided it can be applied and retained upon the Mouths of the divided Veſſels with equal Advantage; and it is probable that the Application of the Agaric will prove not only of great uſe after moſt Operations where the Needle and Ligature may be advantageouſly uſed, but particularly ſo in ſtopping the Bleeding from thoſe Veſſels which are divided in the lateral Operation for the Stone, as well as the Bleeding from any other wounded Veſſels, which, from their deep

deep Situation cannot be ſecured with the Needle and Ligatures.

CASE LXI.

Of an Amputation above the Knee, where the Agaric was applied unſucceſsfully.

FROM the uninterrupted Succeſs which I had met with in the ſeveral preceding Operations, I was encouraged to try the Effects of the Agaric in a Veſſel of a much larger Size than any I had hitherto attempted: Having occaſion therefore, about three Weeks ago, to cut off the Leg of a young Man aged 20, on account of a carious *Tibia*, and Luxation of the Knee, which Diſeaſe had been about 14 Months ſtanding; I applied to the *Femoral* Artery, and to its collateral Branches, ſome of the ſame kind of Agaric which I had before uſed in the preceding Amputations, and in the ſame manner as is there deſcribed. After having rolled up the Stump, and put the Patient to Bed, I continued the Tourniquet and Ligature upon the Thigh for about 8 or 10 Minutes, as tight as was neceſſary to reſtrain the

the Flux of Blood; at the end of which time, I gradually looſened the Ligature until it had a very ſmall degree of Preſſure upon the *Femoral* Artery. After it had been let looſe about two Minutes I perceived the Stump to Bleed; this gave occaſion to my tightening the Ligature, which I kept ſo for about 10 or 12 Minutes, and then gradually ſlackened it again; upon which the Wound bled afreſh. Seeing this, I repeated the Stricture of the Ligature; in which ſtate I kept it for about half an Hour, and then gradually ſlackened it again. Upon ſlackening the Ligature, I perceived the Stump to bleed very freely; on which account I tightened the Ligature again, and effectually reſtrained the *Hæmorrhage*. After theſe ſeveral Trials, I conſidered the Agaric as incapable of having the deſired Effect upon ſo large a Veſſel; and being determined not to riſque the Life of the Patient, I immediately took off the Roller and Dreſſings, and ſecured the *Femoral* Artery with the crooked Needle and Ligature; after which there was no return of the *Hæmorrhage*, and the Patient is now in a fair way of Recovery.

THIS is the only Inſtance in which I have tried the Effects of the Agaric in the divided

Femoral

Femoral Artery; if upon a ſecond Experiment of the ſame kind, it ſhould be found equally unſucceſsful, I ſhall then be induced to conſider this Application as uſeful only in Amputations of the Leg below the Knee, and in Amputations of the Arm below the Elbow, as well as in all other Operations where Veſſels of a ſmaller Size are divided: As yet I have had no Opportunity of trying the Agaric to the divided humeral Artery; though I have been very well informed by a Surgeon who ſpent ſome time in *Paris*, that he ſaw an Inſtance of a divided humeral Artery where the Agaric was applied with Succeſs, and the Patient recovered without any future *Hæmorrhage*; which piece of Hiſtory will be a ſufficient Inducement to me to make Trial of it in the like Caſe when an Opportunity ſhall offer; and eſpecially as theſe Experiments may be always made without the Patient's running any riſque, or incurring any increaſed degree of Pain.

CASE

CASE LXII.

Of an Amputation of the Leg where the Agaric ſucceeded: When the Needle and Ligature could not take place.

J. *V.* a young Man 15 Years of age, had his Leg cut off below the Knee in *April* 1754, on account of a diſeaſed Ancle-Joint, and rotten Bones of the upper part of the Foot.

IMMEDIATELY after the Amputation of the Limb, the Surgeon who performed the Operation, proceeded to ſtop the bleeding Arteries by tying them with the crooked Needle, and Ligatures.

AFTER the ſeveral Veſſels were properly ſecured, the Patient's Wound was carefully dreſſed with Lint, Flower, *&c.* and he was removed to his Bed.

IN a few Hours after the Operation, (upon the coming on of the Symptomatic Fever) the Stump bled ſo much from the Collateral Veſſels, as made it abſolutely neceſſary to remove all the Dreſſings, and to have recourſe

to

to the farther uſe of the crooked Needle and Ligatures to tye up thoſe Veſſels, which at firſt did not appear to bleed, but which now bled very freely: This Method effectually anſwered the preſent Intention, and there was no return of the *Hæmorrhage* till the ſixth Day after the performance of the Operation, when the Wound bled again profuſely.

UPON this accident the Patient loſt ſo great a Quantity of Blood as greatly exhauſted him before any Aſſiſtance could be given him, which was again attempted by a repeated uſe of the Needle and Ligatures, but in vain; for upon endeavouring to paſs the Needle through the fleſhy Portions on each ſide of the Veſſels, the parts were found ſo looſe, and ſo rotten, as to be incapable of admitting of this Proceſs, and of the neceſſary Stricture with the Ligature without tearing them away: This determined the Surgeon who attended the Patient to try the effects of a piece of Agaric, which he applied to the Wound, and retained upon it for forty-eight Hours; at the end of forty-eight Hours, the whole of the Agaric was removed.

FROM the time the Agaric was applied there was no return of the bleeding; and every thing

thing went happily on till the Cure was completed.

CASE LXIII.

Of an Amputation of the Leg, above Knee, where the Agaric was applyed with Succeſs.

D. *F.* a young Lad aged 16 Years, had for a long time been afflicted with a Diſeaſe of his right Knee, attended with a conſiderable Enlargement, and Caries of the Bones, (to wit, the lower Extremity or Condyles of the *Os Femoris*, and the upper appendage of the *Tibia)* the Swelling was accompanied with ſeveral fiſtulous Ulcerations of the Integuments, and Ligaments of that Joint.

THE Diſcharge from the Wounds was very conſiderable, fœtid, and oily. The parts of the Limb above the Knee, as well as thoſe below the Knee were much waſted.

The Patient was almoſt continually in great Pain, his Appetite was very bad, and he could get but little Reſt: For theſe ſeveral Reaſons I cut off the Limb a little above the

diſeaſed Portion of the Thigh-bone. After the Amputation of the Limb, I applyed the Agaric to the *Femoral* Artery, and its collateral Branches, together with the Lint, Pledgit of Cerate, ſoft compreſs of Tow, and the Bandages as uſual.

THE Tourniquet, and Ligature were kept moderately tight upon the upper part of the Thigh for a quarter of an Hour after the Operation: At the end of a quarter of an Hour, the Tourniquet and Ligature were removed.

THE Patient had no bleeding at all during the progreſs of his Cure, which was perfected in about ten Weeks.

HE took no Opiate after the Operation, and there were no ſevere Spaſms of the Stump: But notwithſtanding the Succeſs that attended the uſe of the Agaric in this Operation, I conſidered the riſque of a great and ſudden loſs of Blood from the Mouth of ſo large an Artery as that of the Thigh to be very great; ſuppoſing the Agaric had ſlipped by any means from the Parts to which it was applyed; and for this reaſon alone, I have never ſince applyed the Agaric upon the divided *Femoral* Artery.

RE-

REMARK.

IN Amputations of the Leg above Knee, I have in a variety of Subjects, and with very conſiderable Advantage, applied a few Slips of Sticking-plaiſter acroſs the Stump, each of theſe Slips of Plaiſter muſt be about an Inch broad, and ſufficiently long to extend from one ſide of the Wound to the other; in the ſame manner as Monſieur *Le Dran* has recommended in his Deſcription of the Amputation of the Thigh in his excellent Treatiſe of Operations.

THESE Slips of Plaiſter not only ſerve the purpoſe of contracting the Wound in an effectual manner, and that without the leaſt degree of preſent, or future Pain to the Patient, but at the ſame time they make a very neceſſary preſſure upon the Integuments, which are by this contrivance ſo far brought forwards and retained upon the Surface of the divided Veſſels, and Muſcles of the Limb, as in a great meaſure to prevent a ſecond *Hæmorrhage*, which upon the encreaſe of the ſymptomatic Fever, very often happens from the ſmaller Veſſels of the Wound being more than uſually

diſtended by the encreaſed Velocity, and Force of the Blood.

WHEN theſe ſeveral Slips of Plaiſter are made uſe of, the cuſtom of compreſſing the Stump with the Palm of the Hand for many Hours after the Operation is in a great meaſure unneceſſary.

THE Slips of Plaiſter ſhould not be removed from the Stump till they become quite looſe, and are near falling off, which in general they will be found to be at the ſecond or third time of dreſſing the Wound; that is, in about ſix or ſeven Days after the Operation; when freſh Slips of Plaiſter ſhould again be applyed acroſs the Stump, in the ſame manner as was at firſt done.

THE application of theſe Plaiſters may be repeated as often as is thought neceſſary.

IN Amputations of the Arm above the Elbow, I have made uſe of the ſame kind of tranſverſe Plaiſters to advantage; but in Amputations of the Leg below Knee, and in Amputations of the Arm below the Elbow, on account of the Tightneſs of the Integuments, and Muſcles, as well as by reaſon of the encreaſed Surface of the Bones in theſe parts, the application of the tranſverſe Plaiſters will

not

not be found ſo uſeful and advantageous as they will be above the Knee, or Elbow-Joints; where there is one Bone only, and where the Integuments and Muſcles are more looſely connected together, and to the Bone.

N. B. THE application of theſe tranſverſe Slips of Plaiſters will not only be found beneficial in Amputations of the Leg above the Knee, and in Amputations of the Arm above the Elbow, but they will often be found ſerviceable in Amputations of Breaſts, and in the extirpation of large encyſted Tumours from the Head, Face, Trunk, or Extremities.

THE length and number of theſe Slips of Plaiſter muſt differ according to the ſize of the Wound.

FOR the Stumps of young Subjects two of theſe Slips of Sticking-plaiſter about an Inch in breadth will be found ſufficient: But in Adults, I generally apply three or four Slips of the Plaiſter for this purpoſe.

BEFORE theſe Slips of Plaiſter are applyed, a ſingle headed Roller, about three Inches broad, and ſix or ſeven Yards long, muſt be carried twice round the Waſte of the Patient,

and from thence the Roller muſt be applied round the Thigh in a Spiral manner till it arrives within an Inch of the Edges of the Wound, where it is to be confined by pinning or ſowing the Roller, taking care not to apply the Bandage ſo tight as to give pain, nor ſo ſlack as to admit of the receding of the Integuments. If the Amputation be of the Arm above the Elbow the ſame kind of Roller muſt be conveyed obliquely acroſs the upper part of the Trunk, and from thence muſt be continued to within an Inch of the Edges of the Wound previous to the application of the Layers of Plaiſter. When we have proceeded thus far, a Quantity of Lint, ſufficient to cover the end of the Stump, muſt be applied upon the Sticking-plaiſters: But no Lint or any other application ſhould be made to the Wound before the Plaiſters are layed acroſs the Stump, ſince that would in ſome degree prevent the Lips of the Wound from ſo nearly approaching one another as they otherwiſe would do: Over the Lint and Layers of Plaiſter, a Pledgit of ſoft Tow, ſpread with ſome cooling Ointment, and upon the Pledgit, a thick broad and ſquare Compreſs of

the ſame kind of Tow muſt be placed, as is uſually done in theſe Operations.

THE Dreſſings in general need not be removed till four Days after the performance of the Operation, unleſs there ſhould be a neceſſity for ſo doing on account of a ſecond *Hæmorrhage*, or for any other good Reaſon.

CASE LXIV.

Of an Amputation of the Arm above the Elbow where the Agaric was applied with Succeſs.

MAY, 1755 *J. C.* aged 33 Years, was afflicted with a Diſeaſe of the Elbow-Joint, attended with a conſiderable enlargement of the Condyles of the *Os Humeri*, and the *Proceſſus Olecranon* of the *Ulna:* There were ſeveral fiſtulous Ulcers that appeared externally; from whence ſo great a Quantity of thin, oily, fœtid Matter was continually diſcharged as very much reduced him. The Patient was Hectical, and the part Diſeaſed was in ſo great and conſtant Pain as to render Life inſupportable. The Limb above the Elbow-Joint, was conſiderably waſted: Upon introducing

troducing a Probe through either of the fiſtulous Ulcerations, a very evident Caries of the Bones was diſcoverable, attended with ſuch a Softneſs of them as eaſily admitted of the Probe being paſſed into their very Subſtance. From theſe Circumſtances it was thought neceſſary to cut off the Arm, which was done above the Elbow, a little above the enlargement of the Bones. After the Amputation of the Limb, pieces of Agaric were applied to the Mouths of the divided Arteries, together with the Lint, *&c.* as uſual. The Tourniquet Ligature was kept moderately tight upon the Arm for ten Minutes after the Operation; at the expiration of that time, the Ligature was let quite looſe: There was no diſcharge of Blood from the Wound.

THE Patient was dreſſed the fourth Day after the Operation, when the whole of the Agaric was removed, and no bad Symptom or loſs of Blood followed. The Wound was well in eight Weeks, and the Patient, ſoon after his Recovery, returned home in good Health.

CASE

CASE LXV.

Of an Amputation of the Arm above the Elbow, where the Agaric was applied with Succeſs.

J. R. aged 8 Years, was afflicted with a Diſeaſe of the Elbow-Joint, attended with Symptoms ſo ſimilar to thoſe attendant upon the preceding Caſe of *J. C.* page 343, as to make it unneceſſary to ſay any more than that, for the ſame Reaſons as are there aſſigned, it was thought adviſeable to Amputate the Limb; which was done in *July*, 1755 at a ſmall diſtance above the Condyles of the *Os Humeri*. After the Amputation was finiſhed, bits of Agaric were applied to the Mouths of the Arteries, which were ſecured on as uſual: There was no Bleeding enſued, and the Patient went very well on for four Weeks. But being extremely weak and emaciated before the Operation, the Patient from this time began daily to decline, and at the end of ſix Weeks the Patient died, but not before the Wound was upon the point of being healed.

CASE

CASE LXVI.

Of an Amputation of the Leg below the Knee, attended with ſingular Circumſtances, where the Agaric failed of Succeſs.

R. U. a Boy of ſix Years and an half old, had for ſome time been diſeaſed with a Scrophulous Tumour of the Ankle-Joint of his left Leg attended with a Caries of the inferior extremities of the *Tibia*, the *Fibula*, and the Bones of the upper part of that Foot: the Diſcharge from the Wounds was very great, and its Conſiſtence oily; it tinged the Dreſſings with a blackiſh Colour, and was offenſive to the Smell. On the twenty-firſt of *February* 1755, the Patient was admitted into the Hoſpital under my Care, where he continued for twelve Months without receiving any Benefit, but on the contrary grew worſe; his Leg gradually waſted away, his Appetite fell off, and the Patient could reſt but little; on this account the Amputation of the Leg below the Knee was recommended, and put in practice: The

The Agaric was applied to the Veſſels as deſcribed in the preceding Caſes; the Tourniquet Ligature was kept upon the lower part of the Thigh for about ten Minutes after the Operation; the Patient had a very ſlight degree of ſymptomatic Fever, and every thing went happily on until the third Day, when the Boy unfortunately received a Blow from a large piece of Wood that fell upon the Stump; this Accident brought on a bleeding of the Wound, but by a gentle Compreſſion being made with a freſh Roller that was applied upon thoſe Dreſſings which were at firſt made uſe of, the Bleeding ſtopped, and ſo remained until two Days afterwards; when all the Dreſſings were removed with the ſeveral pieces of Agaric that I might examine into the appearance of the Wound: Soon after the removal of the bits of Agaric, the principal Arteries bled very freely, to wit, the *Tibialis Antica*, *Poſtica*, and *Peronæa*, though in a ſmall and contracted ſtream: As I had no freſh Agaric at Hand I tied the Veſſels and afterwards covered the whole Surface of the Wound with Lint that was firſt dipt in Wheat-Flour. In a very few Hours after the Wound was dreſſed, the Boy complained of ſevere Pain, accompanied with a

ſymptomatic

ſymptomatic Fever: Two Days afterwards, there was a conſiderable Quantity of thin Blood of a very pale Colour, which diſcharged from the Stump in a Stream; upon a removal of the Roller and Dreſſings, the Blood appeared to ooze from the greateſt part of the Surface of the Wound, as though it had been ſqueezed through a ſoft Spunge; for this reaſon I dreſſed up the Wound with Lint dipt in hot Spirits of Turpentine, kept the Tourniquet Ligature applied moderately tight upon the Thigh, and put the Boy into a courſe of the *Peruvian* Bark, which was continued for near three Weeks: For the firſt ſix or ſeven Days, the Patient took half a Drachm of the Powder of Bark every three Hours: For the remaining part of the time the Patient took the ſame Quantity once every ſix Hours: Soon after the Patient began to take the Bark, the Diſcharge from the Wound changed its Conſiſtence and Colour, till at length it acquired the appearance of a well digeſted, white, and thick Matter; at the end of ten Weeks, the Wound was healed, and the Patient was diſcharged with all the appearance of good Health.

RE-

REMARK.

IN all morbid Bleedings that ſucceed an Operation, where I have been concerned, I have given the Bark with the greateſt Succeſs; and I have ſometimes uſed the Bark previous to an Operation as a means to prevent the probability of a ſucceeding *Hæmorrhage*; which ſo far as I can judge of a Medicine taken as a preventive, has generally anſwered my expectation in thoſe Habits of Body where the State of the Blood has been much impoveriſhed through a general Relaxation and Weakneſs of the Body, proceeding from a ſlow Fever, great and almoſt continual Pain, want of Reſt, and a profuſe Diſcharge.

CASE

CASE LXVI. *&c.*

Where the Agaric was unſucceſsfully applied below the Knees after the Limbs were Amputated.

M. H. a poor Woman of 44 Years of age had been afflicted with a carious Ulcer of the internal and inferior extremity of the *Tibia* for near twenty Years. On the tenth of *October* 1756, the Patient was put under my Care; the Diſcharge from the Wound was exceedingly great, its Conſiſtence oily, its Colour ſomewhat black; its Smell fœtid; the Pain ſhe indured was intolerable: From theſe ſeveral Cauſes her Conſtitution became much impaired. In hopes of ſaving the Patient's life, which was judged to be in extreme danger, it was thought adviſeable for her to ſubmit to the loſs of her Limb. The Operation was performed below the Knee on the eighteenth of the ſame Month: Immediately after the Amputation of the Leg, the Agaric was applied to the divided Arteries, with the Lint, Pledgit and Rollers as uſual: The Tourniquet Ligature

was

was kept moderately tight upon the *Femoral* Artery for a quarter of an Hour: When the Ligature was let ſo looſe as to have little or no degree of Preſſure upon the Thigh: The Wound did not bleed for a quarter of an Hour after the ſlackening of the Ligature, but at the end of that time an *Hæmorrhage* came on: On this account, I tightened the Tourniquet Ligature, removed the Dreſſings, and made uſe of the crooked Needle and Ligature to the ſeveral principal Arteries: Soon after the Veſſels were tied, the Patient complained of exceſſive pain, attended with frequent Spaſms of the Limb; which Symptoms continued with very little Intermiſſion (notwithſtanding the uſe of Opiates and ſuch other Medicines as were thought proper upon this Occaſion) till the fourteenth Day after the Operation, when the Patient began to complain of a Pain and Soreneſs in the Muſcles of the Throat; theſe Complaints were gradually ſucceeded by an inability in the Action of thoſe Muſcles whoſe uſes are to depreſs the lower Jaw, to wit, the *Platyſma Myoides* and *Digaſtricus* on each ſide, and with a prœternatural Spaſmodic Contraction of thoſe Muſcles which ſerve to lift up the Lower Jaw, to wit, the *Temporalis*, *Maſſe-*

Maſſeter, *Pterygoideus internus*, and *Pterygoideus externus* on both ſides. From the Moment the Patient complained, I ſuſpected that the too often fatal Symptom of a lock'd Jaw was approaching: To prevent which, the ſides and forepart of the Neck were covered with Bliſters, and the Patient was recommended to the farther Care of the Phyſician, but unſucceſsfully.

ON the third Day after the Patient was attacked with this complaint in her Throat, her lower Jaw became immoveably fixed, and the Night of the ſame Day the Patient expired.

Query. Is it not reaſonable to ſuppoſe that this fatal Symptom of a lock'd Jaw aroſe from the Pain occaſioned by the Strictures that were made by the Ligatures, and that the Recovery of this Patient might reaſonably have been expected had there been no neceſſity of having recourſe to the ſevere, but in this Inſtance abſolutely neceſſary, Method of ſtopping the *Hæmorrhage* by tying the Veſſels?

THAT the Pain immediately attendant upon and ſubſequent to the ſeveral Strictures of the Extremities of the Veſſels and neighbouring Nerves

Nerves were the principal, though not the only Cauſe of this fatal Symptom ſeems probable.

THAT the Symptom of a lock'd Jaw does ſometimes ariſe from Fractures of the Limb, Diſlocations of the Joints, or from Wounds of the *Tendinous* and *Ligamentous* parts of the Body, where no Ligatures are applied, is well enough known to Men of Experience; however it may be worth obſerving that this cruel Symptom has not once occurred in the ſeveral Amputations where the Agaric has ſucceeded under my Inſpection; that ſuch Spaſms as follow the uſe of the Needle and Ligature in a very ſevere degree are very ſlight where the Bleeding has been ſtopt by the application of the Agaric, and that the want of Succeſs ariſing from a loſs of Blood has never once happened in the ſeveral Inſtances where I have applied it.

IN Amputations of Breaſts I have never as yet been under a neceſſity of taking any other Method for ſtopping the Blood but by the application of the Agaric ſince I firſt became acquainted with its Uſes, though I have often performed theſe Operations. It muſt therefore, under many Circumſtances, be eſteemed an

uſeful Remedy, notwithſtanding in the larger Veſſels it too often proves inſufficient.

I muſt acknowledge after the repeated Experiments which I have made with the Agaric upon the Veſſels of amputated Limbs, I am convinced that this Method of ſtopping the flux of Blood is not ſo abſolutely to be depended upon as I had good Reaſon to believe it might be, from the many ſucceſsful Trials I had made with it at the times I publiſhed the firſt and ſecond Editions of this ſmall Work; therefore I cannot now ſo ſtrongly recommend it as I had done before it ever failed me.

WHENEVER the Agaric has not anſwered my Expectation it has ſhewed its Inſufficiency within leſs than an Hour after it has been applied to the Veſſels; except in the Caſe of *R. U.* page 346, where the Bleeding of the Wound that enſued the third Day after the Operation I think may be fairly attributed to the Blow which the Stump received. In our Hoſpitals it is always a Cuſtom to leave an able Perſon upon the ſpot for a Night or two or longer after any capital Operation, let the Method taken for ſtaunching the Blood be by Ligature

or

or otherwiſe; becauſe it is very well known, that the ſymptomatic Fever, ſubſequent upon all painful Operations, does encreaſe the Velocity of the Circulation; for this Reaſon, as well as on account of the ſudden check the Blood meets with from the ſhortneſs of the principal Arteries after ſo great a Portion of them is taken away, as is known to be in the Amputation of a Limb, the ſmaller collateral Veſſels become forcibly acted upon, their *Diameters* are encreaſed, and a ſecond and third *Hæmorrhage* very often enſue; ſo that the Pain being the immediate Cauſe of the ſymptomatic Fever, the Velocity of the Blood muſt be greater or leſſer in proportion to the degree of Pain that enſues; and conſequently where the Agaric that has been applied upon the Arteries is powerful enough to ſucceed, a Bleeding from the ſmaller Veſſels will be leſs likely to happen, than where more painful Methods are taken for this purpoſe.

BESIDES the two Caſes of *R. U.* and *M. H.* See pages 346, 350, which have been particularly deſcribed, three more Inſtances of the failure of the Agaric in Adults have occurred to my Experience in Amputations of Legs below Knee. In all theſe Caſes except that of *R. U.* it is

but juſt to obſerve that the Agaric which failed was of a very different Texture, and Appearance from that which I ſo often ſucceeded with.

THE Agaric that never failed me, except in the Caſe of *R. U.* page 346, had the appearance of ſoft Leather, with a Pile upon its Surface ſomething like Velvet. This Agaric was thin, pliant, and capable of being adapted to, and retained upon the Mouths of the Veſſels with very little trouble: The other Agaric was thick rough and hard; for theſe Reaſons it was very difficultly adapted to the Veſſels, and very apt to ſlip from their Mouths when it was placed upon them. To theſe Cauſes I think its want of Succeſs may be attributed. Whether the Agaric, when it has ſucceeded, acts upon the Veſſels by Compreſſion, whether it acts upon them as a Styptic or whether it acts by choaking and ſtopping up the Mouths of the Veſſels, is a Point difficult to be aſcertained; probably all theſe Powers may have contributed to the Effects it has ſo often produced.

To the ſeveral Caſes I have given, in which I have uſed the Agaric with Succeſs, I could add many more, but as I am unwilling to appear partial in my Accounts, I ſhall finiſh with declaring it is not my Intention to miſ-

lead, or perſuade Practitioners to follow any Method they diſapprove of; it is ſufficient for me to give an ingenuous Account of the Experiments I have made, which I will take upon me to ſay I have faithfully done in every paſſage of this ſmall Work; for the Veracity of which there are a great many ~~who~~ who can teſtify ~~that~~ were preſent at theſe Operations, and very diligently attended to the Event of them.

CASE LXVIII.

Of an Amputation of the Leg below Knee, where the Agaric was unſucceſsfully applied.

F. L. a young Man 24 Years of age, on the eighteenth of *October*, 1759, had his Leg amputated below Knee on account of a large Ulcer, attended with a Caries of a conſiderable Portion of the whole ſubſtance of the *Tibia*, and *Fibula*. The Sore, which took its riſe from an Ague and Fever, had been of about five Years ſtanding; there was ſo conſiderable a Loſs of Subſtance of the Integuments, Muſcles, and *Perioſteum* of the diſeaſed Bones,

and the Diſcharge from the Wound was ſo great, attended with exceſſive Pain, a loſs of Appetite, and a waſting away of the whole Body, as rendered it adviſeable for the Patient to ſubmit to this Operation.

AFTER the Limb was cut off, bits of Agaric were applied to the Mouths of the three principal Arteries of the Stump; to wit, the *Arteria Tibialis antica*, *Tibialis Poſtica*, and *Peronæa*.

OVER the Agaric doſſils of Lint were applied, the reſt of the Wound was covered with dry Lint only; upon which were applied a Pledgit and Compreſs of ſoft Tow as uſual.

THE Tourniquet Ligature was kept moderately tight upon the Thigh for a quarter of an Hour; at the end of that time it was let quite looſe.

IN a few Minutes after the looſening of the Ligature, the Wound bled. Seeing this, the Ligature was tightened for ſeveral Minutes, and then it was let looſe again; upon which the Bleeding returned.

FOR this Reaſon the Dreſſings were removed from the Wound, that it might be known from whence the Blood flowed, which

it

it appeared to do from the *Arteria Tibialis antica*; from the Mouth of that Veſſel the Agaric had ſlipped, but the other two principal Arteries of the Stump, to wit, the *Arteria Tibialis poſtica* and *Peronæa*, diſcharged no Blood at all till the bits of Agaric were taken away, when the Needle and Ligature were made uſe of: The bits of Agaric that were removed from the *Tibialis poſtica* and *Peronæa* ſtuck very cloſe to the Parts, and required ſome force to remove them. Ever ſince the Operation, which is now thirty Days, the young Man has been tormented with very frequent, and ſevere Spaſms of the Stump; and the Patient has continually complained of that common, but unaccountable Senſation of twitchings, and pains in the Limb (particularly in the old Wound and in his Toes) which has been ſo long removed from his Body.

N. B. This is one of the Caſes already taken notice of amongſt thoſe where the Agaric has been ſaid to be unſucceſsful. See the Caſe of *M. H.* page 350.

N. B. This Patient went on with a good proſpect of doing well till the fifth Week after the Operation, when he was ſeized

with a Pain in his Breaſt and Fever, which ſeem to threaten the greateſt Danger.

CASE LXIX.

Of an Amputation of a Breaſt where the Agaric was ſucceſsfully applied.

E. W. 64 Years of age, a Woman of a thin habit of Body, was according to her own Account attacked with a Tumour in her left Breaſt about eight Years ago.

UPON the firſt appearance of the Diſeaſe, and for ſomewhat more than ſeven Years after, the Patient diſcovered the Swelling, ſhe had but little uneaſineſs in the Part: Now and then ſhe remembers to have felt ſome ſlight pricking Pains in that Breaſt.

THE Patient has been ſubject to Hyſterical Complaints for thirty-ſix Years, which aroſe from a Weakneſs that happened in conſequence of a Lying-in.

WITHIN the laſt eight Months preceding the Operation, the Tumour encreaſed very faſt,

faſt, and at length had arrived to a conſiderable Size and Extent.

THE whole of the Breaſt had acquired a ſchirrous and livid Appearance: There was no Swelling, Hardneſs, or Diſcolouration in the *Axilla* nor in any other part of her Body, (Circumſtances abſolutely neceſſary to be minutely attended to before the Operation is determined upon) ſo that, as far as could be known from any Enquiry I was able to make, the Diſeaſe was local.

FOR this Reaſon I recommended the Amputation of the Breaſt, to which the Patient readily aſſented, and I performed the Operation on the twenty-third of *October* 1759: After the Breaſt was cut off, the Blood appeared to flow from four conſiderable Arteries, the largeſt of which was that Branch which was neareſt to the *Axilla*. I applied bits of Agaric upon the Mouths of the four Arteries, and over the bits of Agaric I applied doſſils of Lint as uſual. I then covered the whole of theſe Applications with a Pledgit of ſoft Tow ſpread with *Ceratum album*, and upon the Pledgit I applied a Compreſs of Tow; all of which I bound gently on with a Flannel-Roller about four Inches broad and ſix Yards long, having

firſt

firſt placed a Bolſter of ſoft Tow under each Armpit, which ſhould always be done to keep the Roller properly adapted to theſe Parts, and to prevent it from being ſo liable to ſlip as it otherwiſe would be. The Flannel-Roller I think is preferable to a Linen one upon theſe Occaſions, as Flannel is more warm than Linen, more pliant, and more agreeable to the Motions of the Trunk in the acts of Reſpiration (It is for theſe Reaſons that I always make uſe of a Flannel-Roller in Fractures of the Ribs.

FOR ſome Minutes after the Patient was dreſſed, and in Bed, a ſmall Diſcharge of Blood oozed through the Dreſſings and Bandage, but this Diſcharge ſtopped without any farther trouble.

THE Patient's Wound was dreſſed on the fourth Day after the Operation, when all the Applications in general were removed: The Wound had a very deſirable Appearance, and diſcharged a proper Quantity of Matter very little ſtained with Blood.

FROM this time the Patient proceeded happily on, and is in a fair way of being ſoon well. It is now ſix Weeks ſince the Operation was performed.

RE-

REMARK.

IT may be obſerved from this Inſtance, amongſt others, that indurated Tumours of the Breaſt, which have the Appearances of Schirri, do ſometimes remain for many Years in an indolent ſtate, without undergoing much alteration either in Size, Diſcolouration or Pain, this I have known ſeveral times in young Women. From hence we may infer, that when this kind of Tumour is thus circumſtanced, there is no neceſſity for proceeding haſtily to the Extirpation of the Part: Occaſional Bleedings, gentle Purges, and an abſtemious Diet with warmth, being all that is neceſſary to be done for the Patient: But when the Caſe is very differently circumſtanced, that is, when the Tumour encreaſes faſt, the Part becomes painful, together with or without a Diſcolouration, of the Integuments, it is then abſolutely adviſeable for the Patient to ſubmit to the Extirpation as ſoon as may be: Suppoſing there ſhould be no other Complaint that forbids the Operation; ſince by injudiciouſly deferring the Operation too long, it ſometimes becomes abſolutely improper on account of an Adheſion of the Tumour to the *Pectoral* Muſcle and Ribs.

EXPLA-

EXPLANATION

OF THE

PLATES.

Explanation of PLATE I. See page 74.

This Plate repreſents the Human Eye, and two Couching-Needles.

A. The exact ſize of the Couching-Needle, which I would recommend to be uſed in this Operation.

B. The Couching-Needle paſſed through the Coats of the Eye into the poſterior Chamber, with the Blade of that Inſtrument lying upon the *Cataract* or diſeaſed *Chriſtalline* Lens. This Needle is engraved ſhort enough to be capable of being contained within the breadth of this Sheet.

C. The Eye.

D. The *Cornea*.

E. The anterior Chamber of the Eye.

F. The

F. The *Tunica Iris.*

G. G. The poſterior Chamber of the Eye.

H. H. The *Proceſſus Ciliares*, or poſterior *Lamina* of the *Iris.*

I. The *Chriſtalline* Lens, or Humour.

Fig. 1. The *Sclerotica.*

Fig. 2. The external *Lamina* of the *Choroides.*

Fig. 3. The internal *Lamina* of the *Choroides.*

Fig. 4. The *Tunica Retina.*

Fig. 5. The oblique Inſertion of the Optic Nerve.

All that Space betwixt the internal Surface of the *Cornea* and the *Iris* is called the anterior Chamber of the Eye.

All that Space betwixt the *Iris* and the *Chriſtalline* Lens is called the poſterior Chamber of the Eye. Both theſe Spaces are naturally filled with the Aqueous Humour of the Eye.

That part of the Eye behind the *Chryſtalline* is filled with the *Vitreous* Humour, which on its anterior Part forms a Bed for containing the poſterior Part or more Convex Surface of the *Chryſtalline* Lens.

Ex-

Explanation of PLATE III. See p. 114.

THIS is an exact repreſentation of the Knife which I made uſe of for the Extirpation of the remarkable Tumour, or enlarged *Tonſil*, ſituated upon the Roof of the Mouth and in the Throat of *J. M.* deſcribed in Caſe XIII. page 107, the Circumſtances attending this Enlargement are minutely related in the courſe of that Chapter. For this Inſtrument I profeſs myſelf indebted to Mr. *Belchier*, the Senior Surgeon to *Guy*'s Hoſpital, whoſe Knowledge, Integrity and Humanity in his Profeſſion are ſo well known to the World, as to render any thing I can ſay of this Gentleman upon this Subject quite unneceſſary.

Explanation of PLATE IV. See p. 150.

PLATE the fourth exhibits the expanſion and thickneſs of the Coats with the internal Appearance of the diſeaſed *Femoral* or *Crural* Artery of *J. N.* deſcribed in Caſe XXII. page

150, after that Veſſel was opened longitudinally, and cleanſed of its Contents.

THE ſame Drawing likewiſe repreſents the *Femoral* or *Crural* Artery nearly of its natural Size below the dilated Portion of that Veſſel, with a Bougie through it.

Explanation of PLATE V. See p. 150.

PLATE five repreſents that Portion of the coagulated Blood which had acquired the Texture and Appearance of brown macerated Leather.

THE middle and black Part of this Picture repreſents a remarkable Cavity or Calix, more than two Inches deep: In this hollow part a conſiderable Quantity of coagulated Blood was depoſited that had not as yet acquired a firm and fibrous Appearance.

Explanation of PLATE VI. See p. 150.

PLATE ſix exhibits the poſterior part of the *Os Femoris* of *J. Y.* deſcribed in the preceding Caſe, with the Caries of that Bone, and the

ſeveral

ſeveral ſmall Exoſtoſes or Excreſcences already taken notice of.

THESE Defects on the back part of the Bone I very readily diſcovered by introducing my Fingers into the Inciſion made through the upper part of the Tumour, and into its very Body.

N. B. As the Size of this Plate is not ſufficiently large to admit of that Portion of the Bone which was ſawed off, being drawn of its natural bulk and length, it may not be amiſs to take notice, that the Bone meaſured eight Inches and three quarters, which explains how much of the Limb was cut off in this Operation.

A. Repreſents the amputated Portion of the Thigh-bone of *J. Y.* after it was cleaned.

B. B. The Condyles of the *Os Femoris.*

C. D. E. The Caries, and thoſe ſeveral ſmall Exoſtoſes or bony Excreſcences which appeared upon the Surface of the back part of this Bone in the courſe of the *Linea aſpera.*

F. The natural Cavity formed betwixt the Condyles of the *Os Femoris.*

Ex-

Explanation of PLATE VII. See p. 157.

PLATE ſeven exhibits the poſterior Part of the Thigh-bone of the ſecond Subject whom I have taken Notice of in Caſe XXII. p. 150.

THE Caries or Rottenneſs of the poſterior Part of this Bone a little above and betwixt its Condyles, was ſo deep as to extend to and communicate with the raticular *Plexus* of the inferior Extremity of the Thigh-bone.

THE part of the Thigh-bone that was removed in this Operation meaſured ſeven Inches and an half.

A. Repreſents the amputated Portion of the *Os Femoris* of the above Subject, after it was ſawed off and cleaned.

B. B. The Condyles of that Bone.

C. D. Thoſe parts a little above and betwixt the Condyles which appeared very much decayed.

Explanation of PLATE VIII. See p. 216.

Fig. 1. Exhibits the *Calculus* taken Notice of in page 208, that was cut out of the *Urethra* of *S. B.* As the exact length and ſize of this Stone are repreſented by this Figure, I think it unneceſſary to give a written account of theſe Particulars: However, it may probably give ſome ſatisfaction to the curious, if I obſerve, that this Stone weighed ſix Drachms thirty-five Grains Avertupoiſe weight; that the longeſt and ſmalleſt end of the Stone was ſituated neareſt to the Neck of the Bladder or Origin of the *Urethra:* That on the Surface of the Stone there are two long Grooves or Channels, which are repreſented by the Streaks or Lines running on the ſuperior parts of this Stone; theſe Grooves were formed by the Streams of Urine that were occaſionally diſcharged from the Bladder; and furthermore it may be obſerved that the whole ſubſtance of this Stone, (excepting its very Surface which was ſomewhat rough, and from which there aroſe ſeveral Eminences) had an uniform, highly poliſhed Appearance; reſembling in ſmoothneſs

a bit of poliſhed Glaſs, there being not the leaſt marks of any diſtinct *Laminæ* in the Structure and Conformation of this Stone.

THIS Stone was ſituated in *Perinæo*.

Query. Is it not probable that the generation of this Stone might originally have begun in the *Urethra*, as the Patient does not remember ever to have had the leaſt Complaint in his Loins, or any part of his Bladder; or is it more reaſonable to ſuppoſe that this Stone was firſt of all formed in the Urinary Bladder, from thence conveyed with the Stream of Urine, when very ſmall, and lodged in the *Urethra* till it had arrived to this ſize.

EITHER of theſe Suppoſitions to me appears reaſonable. However, as Hipotheſes of this kind are very difficultly aſcertained, and as a Diſcovery of the Fact, could it be determinately made, would prove of very little Conſequence in Practice, I ſhall no longer dwell upon a Subject in which the Intereſt of Mankind appears to me to be ſo little concerned.

FINIS.

ST. MARY'S HOSPITAL MEDICAL SCHOOL

to be or not to be,